Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 16 SEP 2005 HIGHEST RN 863378-74-9 DICTIONARY FILE UPDATES: 16 SEP 2005 HIGHEST RN 863378-74-9

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2005

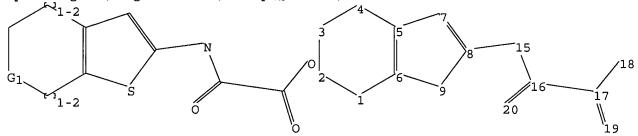
Please note that search-term pricing does apply when conducting SmartSELECT searches.

Structure search iteration limits have been increased. See HELP SLIMITS for details.

Experimental and calculated property data are now available. For more information enter HELP PROP at an arrow prompt in the file or refer to the file summary sheet on the web at: http://www.cas.org/ONLINE/DBSS/registryss.html

=>

Uploading C:\Program Files\Stnexp\Queries\09662457.str



chain nodes :

15 16 17 18 19 20

ring nodes :

1 2 3 4 5 6 7 8 9

chain bonds :

8-15 15-16 16-17 16-20 17-18 17-19

ring bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9

exact/norm bonds :

1-2 1-6 2-3 3-4 4-5 5-6 5-7 6-9 7-8 8-9 8-15 15-16 16-17 16-20 17-18 17-19

G1:0,S

Match level :

1:Atom 2:Atom 3:Atom 4:Atom 5:Atom 6:Atom 7:Atom 8:Atom 9:Atom 15:CLASS 16:CLASS 17:CLASS 18:CLASS 19:CLASS 20:CLASS

### L1 STRUCTURE UPLOADED

=> d

L1 HAS NO ANSWERS

L1 STF

$$\begin{bmatrix} 1 & -2 & & & \\ & & & & \\ & & & & \\ \end{bmatrix}_{1-2} & \begin{bmatrix} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & &$$

G1 0,S

Structure attributes must be viewed using STN Express query preparation.

=> s 11

SAMPLE SEARCH INITIATED 00:45:50 FILE 'REGISTRY'
SAMPLE SCREEN SEARCH COMPLETED - 334 TO ITERATE

100.0% PROCESSED 334 ITERATIONS 13 ANSWERS

SEARCH TIME: 00.00.01

FULL FILE PROJECTIONS: ONLINE \*\*COMPLETE\*\*

BATCH \*\*COMPLETE\*\*

PROJECTED ITERATIONS: 5584 TO 7776
PROJECTED ANSWERS: 44 TO 476

L2 13 SEA SSS SAM L1

=> s 11 full

FULL SEARCH INITIATED 00:45:58 FILE 'REGISTRY'
FULL SCREEN SEARCH COMPLETED - 6383 TO ITERATE

100.0% PROCESSED 6383 ITERATIONS 276 ANSWERS

SEARCH TIME: 00.00.01

L3 276 SEA SSS FUL L1

=> file caplus

COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION FULL ESTIMATED COST 161.33 161.54

FILE 'CAPLUS' ENTERED AT 00:46:04 ON 19 SEP 2005

Page 3 SAEED

USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT. PLEASE SEE "HELP USAGETERMS" FOR DETAILS. COPYRIGHT (C) 2005 AMERICAN CHEMICAL SOCIETY (ACS)

Copyright of the articles to which records in this database refer is held by the publishers listed in the PUBLISHER (PB) field (available for records published or updated in Chemical Abstracts after December 26, 1996), unless otherwise indicated in the original publications. The CA Lexicon is the copyrighted intellectual property of the American Chemical Society and is provided to assist you in searching databases on STN. Any dissemination, distribution, copying, or storing of this information, without the prior written consent of CAS, is strictly prohibited.

FILE COVERS 1907 - 19 Sep 2005 VOL 143 ISS 13 FILE LAST UPDATED: 18 Sep 2005 (20050918/ED)

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s 13 L4 12 L3

=> d ibib abs hitstr tot

L4 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN ACCESSION NUMBER: 2005:238994 CAPLUS DOCUMENT NUMBER: 142:316820

Preparation of hetero-bicyclic fused thieno-pyran TITLE:

INVENTOR(S):

Preparation of hetero-bicyclic fused thieno-pyran compounds as antibacterial, antiviral, antitumor, and pharmaceutically active agents
Koul, Anil; Klebl, Bert; Mueller, Gerhard; Missio, Andrea; Schwab, Wilfried; Hafenbradl, Doris; Neumann, Lars; Sommer, Marc-Nicola; Mueller, Stefan; Hoppe, Edmund; Freisleben, Achims Backes, Alexander; Hartung, Christian; Felber, Beatrice; Zech, Birgit; Engkvist, Ola; Keri, Gyoergy, Oerfi, Laszlo; Banhegyi, Peter; Greff, Zoltan; Horvath, Zoltan; Varga, Zoltan; Harko, Peter; Pato, Janos; Szabadkai, Istvan; Szekelyhidi, Zsolt; Waczek, Frigyes
Amxima Pharmaceuticals A.-G., Germany
PCT Int. Appl., 259 pp.
CODEN: PIXXX2
Patent

PATENT ASSIGNEE(S): SOURCE:

DOCUMENT TYPE: Patent LANGUAGE:

English 1

FAMILY ACC. NUM. COUNT: PATENT INFORMATION:

PATENT NO.						KIND DATE					ICAT		DATE						
WO	WO 2005023818					A2 20050317			1	WO 2	004-	EP10		20040910					
WO	WO 2005023818				A3		20050825												
	W:	AE,	AG,	AL,	AM,	AT,	AU,	AZ,	BA,	BB,	BG,	BR,	BW,	BY,	ΒZ,	CA,	CH,		
		CN.	co,	CR,	CU,	CZ.	DE.	DK,	DM,	DZ,	EC.	EE.	EG,	ES,	FI,	GB,	GD,		
		GE.	GH.	GM.	HR.	HU.	ID.	IL.	IN.	IS.	JP.	KE.	KG.	KP.	KR.	KZ.	LC.		
	DLT.																		
	Kw:																		
					BF,	ВJ,	CF,	ÇG,	CI,	CM,	GA,	GN,	GQ,	GW,	ML,	MR,	ΝE,		
			TD,																
PRIORITY	APP:	LN.	INFO	. :							003-								
										US 2	-000	5026	06P		P 2	20040302 20040310 20040528			
										EP 2	004-	4891			A 2	20040302			
										US 2	004-	5513	41P		P 2	0040	310		
											004-								
											004-								
										-	•••								

OTHER SOURCE(S): MARPAT 142:316820

ANSWER 1 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

L4 ANSWER 1 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

Described are hetero-bicyclic compds. such as 4,5,6,7-tetrahydro-benzo[b]thiophene-3-carboxylic acid amides, 4,7-dihydro-5H-thieno[2,3-c]thiopyran-3-carboxylic acid amides, 4,7-dihydro-5H-thieno[2,3-c]pyran-3-carboxylic acid amides, or benzo[b]thiophene-3-carboxylic acid amides, or benzo[b]thiophene-3-carboxylic acid amides, or benzo[b]thiophene-3-carboxylic acid amides, wherein X1 is 5, 0, NN, substituted nitrogen; Y1-Y4 form with the ring containing X1 a hetero-bicyclic ring systems X1 is H, alkyl, cycloalkyl, heterocycle, alkynyl, substituted Ph, acyl, benzyl; R2 is maide, thioamide, suffonamide, ester, sulfonyl; X3 is H, acyl, thio-ketone, sulfonyl, amide, thio-amide, diketone-amide, ester, thio-ester; and pharmaceutically acceptable salts thereof, the use of these derives for the prophylaxis and/or treatment of various diseases such as infectious diseases, including sycobacteria-induced infections and opportunistic diseases, including sycobacteria-induced infections and opportunistic diseases, prion diseases, including sycobacteria-induced infections and opportunistic diseases, prion diseases, cardiovascular diseases, call proliferative diseases, diabetes, inflammation, transplant rejections, erectile dysfunction, neurodegenerative diseases and stroke, as well as compns. containing at

to one hetero-bicyclic compound and/or pharmaceutically acceptable salts thereof. Furthermore, reaction procedures for the synthesis of the hetero-bicyclic compound are disclosed. Thus, benzo[b]thiophen-carboxylic acid anide II was prepared and tested in vitro for its inhibitory effect on mycobacterial protein kinase G (ICSO = 0.1-1.0 µM).

948326-53-4P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses) (preparation of heterobicyclic fused thienopyran compds, as antibacterial antiviral antitumor and pharmaceutically active agents)
848326-53-4 CAPLUS
Acetic acid, [[3-(aminocarbonyl)-4,7-dihydro-5H-thieno[2,3-c]pyran-2-yl]amino]oxo-, methyl ester (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} & & & \\ & & & \\$$

L4 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN ACCESSION NUMBER: 2003:907753 CAPLUS DOCUMENT NUMBER: 140:314391
TITLE: Structure-based prediction of

Structure-based prediction of free energy changes of binding of PTP1B inhibitors
Wang, Jing, Ling Chan, Shek: Ramnarayan, Kal
Structural Bioinformatics Inc., San Diego, CA, 92127, USA

USA Journal of Computer-Aided Molecular Design (2003), 17(8), 495-513 CODEN: JCADEQ: ISSN: 0920-654X Kluwer Academic Publishers SOURCE:

PUBLI SHER:

JMENT TYPE: Journal SUAGE: English English The goals were (1) to understand the driving forces in the binding of small mol. inhibitors to the active site of PTP1B and (2) to develop a mol. mechanics-based empirical free energy function for compound potency prediction. A set of compds. With known activities was docked onto the active site. The related energy components and mol. surface areas were calculated The bridging water mols. were identified and their contributions were considered. Linear relationships were explored between the above terms and the binding free energies of compds. derived based on exptl. inhibition consts. We found that minimally three terms are required to give rise to a good correlation (0.86) with predictive power in five-group cross-validation test (q2 = 0.70). The dominant terms are the electrostatic energy and non-electrostatic energy stemming from the intra-and intermol. interactions of solutes and from those of bridging water mols. in complexes.

243967-41-1

RL: BSU (Biological study, unclassified), PAC (Pharmacological activity), PRP (Properties); BIOL (Biological study) (structure-based prediction of free energy changes of binding of PTPIB inhibitors)

243967-41-1 CAPLUS

5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-ddihydro- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 54 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2005 ACS ON STN ACCESSION NUMBER: 2003:655854 CAPLUS DOCUMENT NUMBER: 140:37911

DOCUMENT NUMBER: TITLE:

140:37911
A novel strategy for the development of selective active-site inhibitors of the protein tyrosine phosphatase-11ke proteins islet-cell antigen 512
(1A-2) and phogrin (1A-2B)
Drake, Paul G.: Peters, Guenther H.; Andersen, Henrik Sune; Hendriks, Wiljan Holler, Niels Peter H.
Signal Transduction, Novo Nordisk, Bagsvaerd, DK-2880,

CORPORATE SOURCE:

SOURCE:

Den. Biochemical Journal (2003), 373(2), 393-401 CODEN: BIJOAK ISSN: 0264-6021 Portland Press Ltd.

PUBLI SHER:

DOCUMENT TYPE: LANGUAGE:

AUTHOR (S):

RCE: Biochemical Journal (2003), 3/3(2), 393-401

LISHER: CODEN: BIJOAK, 15SN: 0.264-6021

DIWENT TYPE: Journal

GUAGE: English

Islet-cell antigen 512 (1A-2) and phogrin (IA-2B) are atypical

members of the receptor protein tyrosine phosphatase (PTP) family that are

characterized by a lack of activity against conventional PTP substrates.

The physiol. role(s) of these proteins remain poorly defined, although

recent studies indicate that IA-2 may be involved in granule trafficking

and exocytosis. To further understand their function, we have embarked

upon developing low-mol.-mass inhibitors of IA-2 and IA-2B.

Previously, we have shown that a general PTP inhibitor,

2-(oxalylamino)bencoic acid (OBA), can be developed into highly selective

and potent inhibitors of PTPIB. However, since wild-type IA-2 and

IA-2B lack conventional PTP activity, a novel strategy was designed

whereby catalytically active species were generated by "back-mutating" key

non-consensus catalytic region residues to those of PTPIB. These mutants

were then used as tools with which to test the potency and selectivity of

OBA and a variety of its derivs. Catalytically competent IA-2 and

IA-2B species were generated by "back-mutation" of only three key

residues (equivalent to Tyri6, Aspl81 and Ala217 using the human PTPIB

numbering) to those of PTPIB. Importantly, enzyme kinetic analyses

indicated that the overall fold of both mutant and vild-type IA-2 and

IA-2B was similar to that of classic PTPs. In particular, one derivative

of OBA, namely 7-(1,1-dioxo-IM-benze)disothiszol-3-yloxy-methyl)-2
(oxalylamino)-4,7- dihydro-5H-thieno(2,3-c)pyran-3-carboxylic acid

("Compound 6" shown in the main paper), which inhibited IA
2p(57627Y898P/D933A) (IA-2P in which Ser762 has been mutated to

tyrosine, Tyr89 to proline, and Asp933 to alanine) with a Xi value of

-8 µH, appeared ideal for future lead optimization. Thus mol.

modeling of this classical, competitive inhibitor in the catalytic site of

wild-type IA-2P in experience of the pr

243967-41-1 330653-71-9
RI: BSU (Biological study, unclassified); PRF (Properties); BIOL (Biological study) (development of selective active-site inhibitors of protein tyrosine phosphatase-like proteins islet-cell, antigen S12 (IA-2) and phogrin (development of selective active-site innibitors of protein tyrosine phosphatase-like proteins islet-cell, antigen 512 (IA-2) and phosprin (IA-2B) 243967-41-1 CAPLUS 5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

14 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2003:283456 CAPLUS
DOCUMENT NUMBER: 139:145689
TITLE: Ligand-induced conformational changes: Improved predictions of ligand binding conformations and affinities

AUTHOR(S): Frimurer, Thomas M., Peters, Gunther H., Iversen, Lars F., Andersen, Henrik S., Moller, Niels Peter H., Olsen, Ole H.

CORPORATE SOURCE: Biophysical Journal (2003), 84(4), 2273-2281
CODEN: Biophysical Journal (2003), 84(4), 2273-2281
CODEN: BIOADU, ISSN: 0006-3495

PUBLISHER: Biophysical Society
Journal
LANGUAGE: Biophysical Society
Journal
AB A computational docking strategy using multiple conformations of the target protein is discussed and evaluated. A series of low mol. weight, competitive, nonpetide protein tyrosine phosphatase inhibitors are considered for which the x-ray crystallog, structures in complex with protein tyrosine phosphatase in PIPIB are known. To obtain a quant. Measure of the impact of conformational changes induced by the inhibitors, these-were docked to the active site region of various structures of PTPIB using the docking program FlexX. Firstly, the inhibitors were docked to a FTPIB crystal structure cocrystd. with a hexapeptide. The estimated binding energies for various docking modes as well as the RMS differences between the docked compds. and the crystallog, structure were calculated In this scenario the estimated binding energies were not predictive inasmuch as docking anodes with low estimated binding energies corresponded to relatively large RMS differences when aligned with the corresponding crystal structure. Secondly, the inhibitors were docked to their parent protein structures in which they were cocrystd. In this case, there was a good correlation between low predictability of the docking procedure in the general case, where only a single target protein structure is known, we evaluate an approach which takes possible protein structure is known, we evaluate an approach which takes possible protein structure is known, the evaluate an appr

the top candidate. Using this protocol, correct inhibitor binding modes could successfully be discriminated from proposed incorrect binding modes. Moreover, the ranking of the estimated ligand binding energies was in good agreement with exptl. observed binding affinities.

243967-41-1
RL: BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study)

(modeling of protein tyrosine phosphatase 1B (PTP1B)-inhibitor interactions)

interactions)
243967-41-1 CAPIUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330653-71-9 CAPLUS ShrThieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[[(1, 1-dioxido-1, 2-benzisothiazol-3-yl)oxy]methyl]-4,7-dihydro- (9CI) (CA

REFERENCE COUNT: 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

ANSWER 4 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

(Continued)

THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT REFERENCE COUNT:

L4 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2005 ACS ON STN ACCESSION NUMBER: 2002:640950 CAPLUS DOCUMENT NUMBER: 137:369997

2002:640950 CAPIUS
137:369997
Discovery and SAR of a Novel Selective and Orally
Bioavariable Nonpeptide Classical Competitive
Inhibitor Class of Protein-Tyrosine Phosphatase IB
Andersen, Henrik Sune; Olsen, Ole H.; Iversen, Lars
F.; Sorensen, Anette L. P.; Mortensen, Steen B.;
Christensen, Michael S.; Dranner, Sven; Hansen, Thomas
K.; Lau, Jesper F.; Jeppesen, Lone; Moran, Edmond J.;
Su, Jing; Bakir, Farid; Judge, Luke; Shahbaz, Manou;
Collins, Tassie; Vo, Todd; Nawman, Michael J.; Ripka,
William C.; Moller, Niels Peter H.
Departments of Medicinal Chemistry Research I, 4, and
5 and Drug Metabolism, Health Care Discovery, Novo
Nordisk A/S, Malov, DK-2760, Den.
Journal of Medicinal Chemistry (2002), 45(20),
4443-4459
CODEN: JMCMAR; ISSN: 0022-2623 AUTHOR (S):

SOURCE:

CODEN: JMCMAR; ISSN: 0022-2623 American Chemical Society Journal

PUBLISHER:

DOCUMENT TYPE: LANGUAGE:

English CASREACT 137:369997 OTHER SOURCE(S):

CORPORATE SOURCE:

A broad approach to the synthesis of low-mol,-weight active site-directed selective inhibitors of specific members of protein-tyrosine phosphatase (PTFs) family was developed. 2 - (Oxalylamino) benzoic acid I (Rl = R2 = H), previously identified as a relatively weak but classical competitive inhibitor of several PTFs by a high throughput screening, was used as a starting point for the synthesis of selective PTF inhibitors I (Rl = H, 3-He, 4-iodo, 4-Ph, etc.; R2 = H, Me), II (R3 = H, Ph, 3-thienyl, 4-HOCGHA, 3.5-(Meo) 20-GH3, etc.), and III (R4 = H; X = CH2, CO, CHOH, O, S, SOZ, NR5; R5 = H, Me, PhCH2, 2-(3-thienyl) etbyl, etc.), Good oral bloavailability in rat was observed for III (R4 = H; X = O, NH, Ph(CH2) 2N). Furthermore, enhancement of 2-deoxyglucose accumulation in C2C12 cells was

ANSWER 5 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

IT 474843-62-4P 474843-63-5P 474843-64-6P
474843-65-7P
RL: RCT (Reactant), SPN (Synthetic preparation), PREP (Preparation), RACT
(Reactant or reagent)
(preparation of (oxalylamino) benzoic acids and
(carboxyheteroarylamino) oxali
c acids as selective and orally bioavailable nonpeptide inhibitors of
protein-tyrosine phosphatase IB)
RN 474843-62-4 CAPLUS
CN SH-Thieno(2,3-c-pyran-3-carboxylic acid, 2-{(ethoxyoxoacetyl)amino}-4,7dihydro-, ethyl ester (9CI) (CA INDEX NAME)

474943-63-5 CAPLUS 5H-Thieno[2,3-c]-thiopyran-3-carboxylic acid, 2-[(ethoxyoxoacetyl)amino]-4,7-dihydro-, ethyl ester (9CI) (CA INDEX NAME)

474843-64-6 CAPLUS 5H-Thieno[2,3-c]thiopyran-3-carboxylic acid, 2-[(ethoxyoxoacetyl)amino]-4,7-dihydro-, ethyl ester, 6-oxide (9CI) (CA INDEX NAME)

L4 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) obsd. with some prodrug analogs, e.g. III [R4 = Et, X = Ph(CH2)2N].

IT 243966-19-0P 243966-39-09 243967-41-1P
243967-48-EP
RL: FAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation of (oxalylamino)benzoic acids and (carboxyhetroarylamino) oxali

c acids as selective and orally bioavailable nonpeptide inhibitors of protein-tyrosine phosphatase 1B)

RN 243966-19-0 CAPLUS
CN 5H-Thien(2,3-c) thiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-33-8 CAPLUS 5H-Thieno[2,3-c]thiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-, 6-oxide [9CI) [CA INDEX NAME]

243967-41-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

243967-48-8 CAPLUS 5H-Thieno[2,3-c]thiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-, 6,6-dioxide (9CI) (CA INDEX NAME)

ANSWER 5 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

474943-65-7 CAPLUS 5H-Thiano[2,3-c] thiopyran-3-carboxylic acid, 2-[(ethoxyoxoacetyl)amino]-4,7-dihydro-, ethyl ester, 6,6-dioxide (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

AUTHOR (S):

L4 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:828237 CAPLUS
DOCUMENT NUMBER: 136:98294
TITLE: Steric Hindrance as a Basis for Structure-Based Design
of Selective Inhibitors of Protein-Tyrosine
Phosphatases

Displaces in Ministers of Protein Process of Programs of Process o

CORPORATE SOURCE:

SOURCE:

PUBLI SHER:

DOCUMENT TYPE: LANGUAGE:

OTHER SOURCE(S):

ISHER: American Chemical Society
MENT TYPE: Journal
UAGE: English
R SOURCE(S): CASREACT 136:98294
UILilizing structure-based design, we have previously demonstrated that it
is possible to obtain selective inhibitors of protein-tyrosine phosphatase
1B (PTPIB). A basic nitrogen was introduced into a general PTP inhibitor
to form a salt bridge to Asp48 in PTPIB and simultaneously cause repulsion
in PTPs containing an asparagine in the equivalent position [Iversen, L.
et

in PTPs containing an asparagine in the equivalent position [Iversen, L. et al. (2000) J. Biol. Chemical 275, 10300-10307]. Further, we have recently demonstrated that Gly259 in PTP1B forms the bottom of a gateway that allows easy access to the active site for a broad range of substrates, while bulky residues in the same position in other PTPs cause steric hindrance and reduced substrate recognition capacity [Peters, G. H., et al. (2000) J. Biol. Chemical 275, 18201-18203]. The current study was undertaken to investigate the feasibility of structure-based design utilizing these differences in accessibility to the active site amount various PTPs. We show that a general, low-mol. weight PTP inhibitor can be developed into a highly selective inhibitor for PTPIB and TC-PTP by introducing a substituent, which is designed to address the region around residues 258 and 259. Detailed enzyme kinetic anal. With a set of wild-type and mutant PTPs, X-ray protein crystallog, and mol. modeling studies confirmed that selectivity for PTPIB and TC-PTP was achieved due to steric hindrance imposed by bulky position 259 residues in other PTPs. 243967-41-1

BL: BSU (Biological study, unclassified) PRP (Properties); BIOL

RL: BSU (Biological study, unclassified); PRP (Properties); BIOL

RL: BSU (Biological study, unclassified), PRP (Properties), BIOL (Biological study) (active site steric hindrance can be used as basis for structure-based design of selective inhibitors of protein-tyrosine phosphatases) 243967-41-1 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 6 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330653-71-9P
RL: BSU (Biological study, unclassified); PRP (Properties); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation) (active site steric hindrance can be used as basis for structure-based design of selective inhibitors of protein-tyrosine phosphatases) 330653-71-9 CAPLUS
5H-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[[(1,1-dioxido-1,2-benzisothiazol-3-yl)oxy]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

ΙT 389120-79-0P

389120-79-09
RL: PNU (Preparation, unclassified); RCT (Reactant); PREP (Preparation);
RACT (Reactant or reagent)
(active site steric hindrance can be used as basis for structure-based design of selective inhibitors of protein-tyrosine phosphatases)
389120-79-0 CAPLUS
5H-Thieno(2, 3-c]pyran-3-carboxylic acid, 2-[[(1,1-dinethylethoxy)oxoacetyl]amino]-7-[[(1,1-dioxido-1,2-benzisothiazol-3-yl)oxy]methyl]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

ANSWER 6 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

REFERENCE COUNT:

THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2001:208280 CAPLUS
134:252328
TITLE: Preparation of 2-(oxalylamino)-4,7-dihydro-SH-thieno[2,3-c]pyran-3-carboxylic acids as protein tyrosine phosphatase inhibitor or Andersen, Henrik Sune, Hansen, Thomas Kruse, Lau, Jesper, Holler, Niels Peter Hundahl; Olsen, Ole Hvilsted; Axe, Frank Urban Ge, Yu; Holsworth, Daniel Dale; Jones, Todd Kevin, Judge, Luke Milburn; Ripka, Willam Charles; Shapira, Barry Zvi; Uyeda, Roy Teruyuki

Teruyuki sk A/S, Den., Ontogen Corporation PCT Int. Appl., 147 pp. CODEN: PIXXD2

PATENT ASSIGNEE(S): SOURCE:

DOCUMENT TYPE: Patent English

LANGUAGE: FAMILY ACC. NUM. COUNT: PATENT INFORMATION:

PATENT NO.	KIND DATE	APPLICATION NO.	DATE				
WO 2001019831	A1 20010322		20000911				
		A, BB, BG, BR, BY,					
		E, ES, FI, GB, GD,					
		G, KP, KR, KZ, LC,					
		W, MX, MZ, NO, NZ,					
		M. TR. TT. TZ. UA.					
	AZ, BY, KG, KZ, M		00, 02, 111, 10,				
		L, SZ, TZ, UG, ZW,	AT. BE. CH. CY				
		E, IT, LU, MC, NL,					
		L, MR, NE, SN, TD,					
EP 1214325							
		B, GR, IT, LI, LU,					
	LV, FI, RO, MK, C		ND, DB, NC, FI,				
JP 2003509430			20000011				
PRIORITY APPLN. INFO.:							
PRIORITI APPEN. INFO.:			A 19990910				
		WO 2000-DK503	W 20000911				
OTHER SOURCE(S):	MARPAT 134:252328						

### L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

The title compds. (I) [wherein n = 0-2; m = 1 or 2; X = S or 0; Y = 0, S, S0, or S02; R1 = H or COZR3, tetrazolyl, 3-hydroxyoxazolyl, 3-hydroxyisothiazolyl, 3-hydroxyoxazolyl, 3-hydroxyoxazolyl, 2-doxadiazolyl, 2-thio-1,3,4-oxadiazolyl, 2-hydroxyoxazolyl, 2-hydroxyoxhiazolyl, etc.; R2 = H, alkyl, OH, or NR788; R3 = H (ar)alkyl, or alkylcarbonyloxy(ar)alkyl; R4-R6 = independently H, trialmomethyl, (ar)alkyl, (heterolaryl, OH, oxo, carboxy(alkyl), alkyloxycarbonyl, alkoxy(alkyl), (ar)alkylcarbonyl, oxialkylthio, (un)substituted amino, acyl, alkylcarbonylamino(alkyl), etc.; R7 and R8 = independently H, (ar)alkyl, aryl, (ar)alkylcarbonyl, or (ar)alkylcarboxy, or R7 and R8 = independently a 5-7 membered amine, imide, or lactaml were prepared as inhibitors of protein tyrosine phosphatases (PfPases), such as PfF1B, CDAS, SHP-1, SHP-2, PfPa, LAR, and HePfP. For example, 5-(4-benzylcxy-1,3-dioxo-1,3-dihydroisoindol-2-y-lnethyl)-2-(tetr-butoxyoxalylamino)-4,7-dihydro-5H-thieno(2,3-c)pyran-3-carboxylic acid tert Bu ester was debenzylated using Pd/C in EtoAc (671) and deseterified using 25% fFA in CH2C12 to afford II (728). In a study evaluating for biol. activity against a truncated form of PfF1B, II inhibited PfF1B with a Ki of 1.5 pM. I are useful in the treatment of type I diabetes, type II diabetes, inpaired glucose tolerance, inaulin resistance, obesity, and other diseases (no data). 330192-16-09 330192-21-0-29 330192-20-69 330192-30-89 330192-30-89 330192-30-89 330192-30-89 330192-30-89 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-19 330192-31-31-19 330192-31-19 330192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 30192-31-31-31 ıт

### ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330192-24-0 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-1,3-dioxo-2H-benz[f]isoindol-2-y])mathyl]-2-[([1,1-dimethylethoxy]oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-25-1 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[5-(acetylamino)-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl]methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-27-3 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-b]pyrazin-6-yl]methyl]-2-[((1,1-dimethylethoxyloxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-30-8 CAPLUS

Page 9

330192-18-2 CAPLUS 5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[{(1,1-dimethylethoxy) oxoactyl]amino]-4,7-dihydro-5-[(4,5,6,7-tetrachloro-1,3-dihydro-1,3-dioxo-2H-isoindo1-2-yl)methyl]-, 1,1-dimethylethyl ester (9CI)

330192-20-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-5-methoxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-22-8 CAPLUS
5H-Thisno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-4-hydroxy-1,3-dixo-2H-isoindol-2-yl)methyl)-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

# ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[(5,7-dibyto-5,7-dioxo-6H-pyrrolo[3,4-b]pyridin-6-yl]methyl]-2-[[(1,1-dimethylethoxyloxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-31-9 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-b]pyridin-6-yl]methyl]-2-[([1,1-dimethylethoxy]oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-32-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-1,3-dioxo-2H-pyrrolo[3,4-c]pyridin-2-yl)methyl]-2-[([1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester [9CI] (CA INDEX NAME)

330192-33-1 CAPLUS SH-Thieno(2,3-c)pyran-3-carboxylic acid, 5-[(1,3-dihydro-5-nitro-1,3-dioxo-ZH-isoindol-2-yl)aethyl]-2-[([1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 330192-36-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[1,3-dihydro-5-(methoxymethoxy)-1,3-dioxo-2H-isoindol-2-yl]methyl]-2-[[(1,1-dimethylethoxy)oxacactyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-38-6 CAPLUS
CN 5H-Thieno{2,3-c}pyran-3-carboxylic acid, 5-[{1,3-dihydro-4-methoxy-1,3-dioxo-2H-isoindol-2-y-l}methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester {9CI} (CA INDEX NAME)

RN 330192-39-7 CAPLUS

CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-4-nitro-1,3-dioxo-2H-isoindol-2-yl)methyl]-2-[((1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) yl]methyl methyl ester (9CI) (CA INDEX NAME)

RN 330192-50-2 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[[1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-7-[[(triethylsilyl)oxy]methyl]-,1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-52-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy) oxcacetyl]amino]-4,7-dihydro-7-(hydroxymethyl)-,1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-53-5 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)coxacetyl]amino]-4,7-dihydro-7-[[[(4-nitrophenyl]sulfonyl]oxy]methyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 330192-41-1 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[4-[{4-chlorophenyl}thio]-1,3-dihydro-6-methyl-1,3-dioxo-2H-pyrrolo[3,4-c]pyridin-2-yl]methyl]-2-[[(1,1-dimethylethoxyl)awacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-43-3 CAPLUS
CN 5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-5-[[3-(1H-imidazol-1-yl)-2,5-dioxo-1-pyrrolidinyl]methyl}-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-46-6 CAPLUS CN Ethanedicic acid, [3-[(1,1-dimethylethoxy)carbonyl]-2-[({1,1-dimethylethoxy)oxoacetyl]amlno]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330192-55-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[{(1,1-dimethylethoxy) oxoacetyl]amino]-7-[(2,4-dioxo-3-thiazolidinyl)methyl]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-56-8 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl) oxy]methyl]-2-[([1,1-dimethylethoxy) oxoacetyl]amino]-4,7-dihydro-1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

### L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

H2 NH-C-C-OBu-t

RN 330192-61-5 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[(1,3-benzodioxol-5-ylcarboxyl)amino]methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dibydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

### L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 330192-71-7 CAPLUS
CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[[1,1-dimethylethoxy) oxacetyl]amino]-4,7-dihydro-5[[(phenylmethyl)amino]carbonyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-72-8 CAPLUS
SH-Thieno[2,3-c]pyran-3,7-dicarboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 3-(1,1-dimethylethyl)7-ethyl ester (SCI) (CA INDEX NAME)

RN 330192-76-2 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-7[[(phenylmethyl)amino]carbonyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330192-63-7 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[{{(2,4-dimethoxyphenyl) amino] carbonyl] amino] methyl]-2-{[(1,1-dimethyl)ethoxy) oxacaetyl] amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-68-2 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy) coxacetyl]amino]-4,7-dihydro-5-[(phenylamino)carbonyl]-,1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

### L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

N 330192-78-4 CAPLUS
N 5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy) coacetyl]amino]-4,7-dihydro-7-[[[(4-(methylsulfonyl)phenyl]acetyl]amino]methyl]-, 1,1-dimethylethyl ester (9C1) (CA INDEX NAME)

PAGE 2-A

NN 330192-81-9 CAPLUS
N 3-Pyridinecarboxylic acid, 2-[[[{3-[(1,1-dimethylethoxy)carbonyl]-2-[[(1,1-dimethylethoxy)cxoacetyl]anino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl]amino]carbonyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330192-82-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy) oxacetyl]amino]-7-[[2,4-dioxo-5-[2-pyridinylmethylene)-3-thiazolidinyl]methyl]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-84-2 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-7-[[2,4-dioxo-5-(2-pyridinylmethyl]-3-thiazolidinyl]methyl]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330192-93-3 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-{[[(2R)-2-(acetylamino)-3-methyl-1-oxobutyl]amino]methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

330193-42-5 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[(1,3-dihydro-1-oxo-2H-isoindol-2-yl)methyl-2-[([(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-,
1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

SAEED

Page 12

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330192-90-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[{2R}]-2-[[(1,1-dimethylethoxy) carbonyl]amino]-1-oxo-3-phenylpropyl]amino]methyl]-2-[[(1,1-dimethylethoxy) coxocetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

330192-91-1 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[(2R)-2-(acetylamino)-3-(4-hydroxyphenyl)-1-oxopropyl]amino]methyl]-2-[[(1,1-dimethylethoxy)oxocetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330193-46-9 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy) oxacetyl] smino]-5-formyl-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330193-47-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-{[(1,3-benzodioxol-5-ylnethyl) amino]methyl]-2-{[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330193-52-7 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[(1,3-benzodioxol-5-ylacetyl)amino]methyl]-2-[[(1,1-dimethylethoxyloxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330193-55-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[{[1,1-dimethylethoxy]oxacetyl]amino]-4,7-dihydro-5-[[([5-methoxy-2-methyl-1H-indol-3-yl)carboxyl]amino]methyl}-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330193-57-2 CAPLUS

IH-Isoindole-5-carboxylic acid, 2-[(3-[(1,1-dimethylethoxy) carbonyl]-2[(1,1-dimethylethoxy) oxoacetyl]amino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5yl]methyl]-2,3-dihydro-1,3-dioxo- (9CI) (CA INDEX NAME)

330193-58-3 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[1,3-dihydro-1,3-dioxo-5-[[cropylamino]-ab-isoindol-2-yl]methyl]-2-[[[1,1-dimethylethoxy) oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (SCI) (CA INDEX NAME)

330653-63-9 CAPLUS Ethanedioic acid, [3-[(1,1-dimethylethoxy)carbonyl]-2-[[(1,1-dimethylethoxy)cxacetyl]amino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
243967-81-9F 330191-23-6F 330191-24-7F,
7-(2,4-01 ioxochiazolidin-3-ylmethyl)-2-(oxalylamino)-4,7-dihydro-5Hthieno(2,3-c)pyran-3-carboxylic acid 330191-28-8F
330191-29-2F 330191-30-5F 330191-21-6F
330191-29-2F 330191-30-5F 330191-31-6F
330191-29-2F 330191-35-0F, 7-Benylcarbamyl-2-(oxalylamino)-4,7-dihydro-5H-thieno(2,3-c)pyran-3,7-dicarboxylic acid
7-ethyl ester 330191-35-0F, 7-Benylcarbamyl-2-(oxalylamino)-4,7-dihydro-5H-thieno(2,3-c)pyran-3-carboxylic acid 330191-36-1F
330191-37-2F 330191-38-9F 330191-39-4F
330191-40-7F, 2-[[[3-Carboxy-2-(oxalylamino)-4,7-dihydro-5Hthieno(2,3-c)pyran-5-yllmethyll-garbamoyl)nicotinic acid
330191-41-8F 330191-43-0F 330191-44-1F
330191-45-2F 330191-46-PF 330191-47-4F
330191-45-2F 330191-46-PF 330191-47-4F
330191-35-2F 330191-55-7F 330191-56-5F
330191-35-2F 330191-56-7F
330191-37-9F 330191-56-7F
330191-37-6F
330191-38-6F

330653-71-99 330653-72-0P 330653-73-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SFN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses); (prepn. of 2-(oxalylamino)-4,7-dihydro-8H-thieno(2,3-c)pyran-3-carboxylic acids as PTPIB inhibitors for treatment of diabetes, impaired glucose tolerance, insulin resistance, obesity, and other diseases)
243967-61-5 CAPLUS
SH-Thieno(2,3-c)pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5-[(5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-b)pyridin-6-yl)methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

243967-62-6 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(5,7-d)iydro-5,7-dioxo-6H-pyrrolo[3,4-c]pyridin-6-yl)methyl]-4,7-dihydro[9CI) (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

J30653-65-1 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy) oxoacetyl]amino]-4,7-dihydro-5-[(octahydro-1,3-dioxo-4,7-epoxy-ZH-isoindol-2-yl)methyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEN NAME)

330653-64-0P

330633-64-0P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological activity or effector, except adverse); BSU (Biological Study, unclassified); RCT (Reactant); SPN (Synthetic preparation); TRU (Therapeutic use); BIOL (Biological Study); PREF (Preparation); RACT (Reactant or reagent); USES (Uses); (preparation of 2-(oxalylamino)-4,7-dihydro-5H-thieno[2,3-c]pyran-3-carboxylic acids as PTPIB inhibitors for treatment of diabetes, impaired glucose tolerance, insulin resistance, obesity, and other diseases)
330653-64-0 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl]amino]-4,7-dihydro-5-((octahydro-1,3-dioxo-4,7-epoxy-1H-isoindol-2-yl)methyl]- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} & & & \\ & & \\ & & \\ & & \\ \end{array}$$

243967-61-5P 243967-62-6P 243967-63-7P 243967-64-8P 243967-71-7P 243967-72-8P 243967-73-9P 243967-74-0P 243967-75-1P

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243967-63-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-b]pyrazin-6-yl)methyl]-4,7-dihydro[9CI] (CA INDEX NAME)

243967-64-8 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-((carboxycarbonyl)amino]-5-(1,3-dihydro-5-nitro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

243967-71-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1,3-dihydro-5-hydroxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro[SCI] (CA INDEX NAME)

243967-72-8 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1,3-dihydro-5-mathoxy-1,3-dioxo-2H-isoindol-2-yl)mathyl}-4,7-dihydro[9C1] (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243967-73-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-5-[(1,3-dihydro-4-hydroxy-1,3-dioxo-2H-isoindol-2-yl)mathyl}-4,7-dihydro-(SCI) (CA INDEX INME)

243967-74-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl) amino]-5-[(1,3-dihydro-4-methoxy-1,3-dioxo-2H-isoindol-2-yl) methyl]-4,7-dihydro-(SCI) (CA INDEX NAME)

243967-75-1 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarboxyl)amino]-5-[(1,3-dihydro-4-nitro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-(SCI) (CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330191-26-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-7[(1,3-dihydro-5-methoxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro(SCI) (CA INDEX NAME)

330191-27-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[{1,3-dihydro-1,3-dioxo-2H-benz[f]isoindol-2-yl)methyl]-4,7-dihydro- (CA INDEX NAME)

330191-28-1 CAPLUS
Ethanedioic acid, [3-carboxy-2-[(carboxycarbonyl)amino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl methyl ester (9CI) (CA INDEX NAME)

Page 14

SAEED

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

243967-81-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[1,3-dihydro-1,3-dioxo-5-[(propylamino)carbonyl]-2H-isoindol-2-yl]methyl]4,7-dihydro- (SCI) (CA INDEX NAME)

330191-23-6 CAPLUS 5H-Thieno[2, 3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(4-chloro-1, 3-dihydro-1, 3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330191-24-7 CAPLUS

SH-Thieno(2,3-c)pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-7-[(2,4-dioxo-3-thiazolidinyl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330191-25-8 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dibydro-5:[(4,5,6,7-tetrachloro-1,3-dibydro-1,3-dioxo-2H-isoindol-2-yl)methyl]- (9CI) (CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) 330191-29-2 CAPLUS Ethanedioic acid, mono[(3-carboxy-2-[(carboxycarbonyl)amino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl] ester (9CI) (CA INDEX NAME)

330191-30-5 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7-(hydroxymethyl)- (9Cl) (CA INDEX NAME)

330191-31-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[(1,3-benzodioxol-5-ylcarbonyl)amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI)(CA INDEX NAME)

330191-32-7 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[3-(1H-imidazol-1-yl)-2,5-dioxo-1-pyrrolidinyl]methyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330191-33-8 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-4,7-dihydro-5-{(phenylamino)carbonyl]- (9CI) (CA INDEX NAME)

330191-34-9 CAPLUS 5H-Thieno[2,3-c]pyran-3,7-dicarboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro, 7-ethyl ester (9CI) (CA INDEX NAME)

330191-35-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7-[[[phenylmethyl)amino]carbonyl]- (9CI) (CA INDEX NAME)

 $330191-36-1 \quad CAPLUS \\ 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-\{(carboxycarbonyl)amino]-5-\{[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarbonyl]amino]-5-[4-carboxycarboxycarbonyl]amino]-5-[4-carboxyc$ 

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330191-39-4 CAPLUS
5H-Thieno[2,3-c]pyren-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-7[[[(2,4-dimethoxyphenyl)amino]carbonyl]amino]methyl]-4,7-dihydro(GCI INDEX NAME)

330191-40-7 CAPLUS
3-Pyridinecarboxylic acid, 2-[[[[3-carboxy-2-((carboxycarboxyl)amino]-4,7-dibydro-5H-thieno[2,3-c]pyran-5-yl]methyl]amino]carbonyl]- (9CI) (CA INDEX NAME)

330191-41-8 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-{(4-SAEED

Page 15

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) [(4-chlorophenyl)thio]-1,3-dihydro-6-methyl-1,3-dioxo-2H-pyrrolo[3,4-c)pyridin-2-yl]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330191-37-2 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)oxy]methyl]-4,7-dihydro-(9CI)(CA INDEX NAME)

330191-38-3 CAPLUS 5H-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl) amino]-7-[(1,3-dihydro-4-hydroxy-1,3-dioxo-2H-isoindol-2-yl) methyl]-4,7-dihydro-(SCI) (CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) fluoro-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-(9CI)(CA INDEX NAME):

330191-43-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-7[(5,7-dihydro-5,7-dioxo-6H-1,3-dioxolo[4,5-f]isoindol-6-yl)methyl]-4,7dihydro-(SCI) (CA INDEX NAME)

330191-44-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[[2,4-dioxo-5-(2-pyridinylmethylene)-3-thiazolidinyl]methyl]-4,7-dihydro-(SCI) (CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
330191-45-2 CAPLUS
5H-Thieno[2,3-c-]pyran-3-carboxylic acid, 2-[(carboxycarboxyl)amino]-7[2,4-dioxo-5-(2-pyridinylmethyl)-3-thiazolidinyl]methyl]-4,7-dihydro(9CI) (CA INDEX NAME)

330191-46-3 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7-[[5-[(4-methoxyphenyl)methylene]-2,4-dioxo-3-thiazolidinyl]methyl]- (9CI) (CA INDEX NAME)

330191-47-4 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[5-[[4-(acetylamino)phenyl]methylene]-2,4-dioxo-3-thiazolidinyl]methyl]-2-

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330191-50-9 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7--[[[[4-(methylsulfonyl)phenyl]acetyl]amino]methyl]- (9CI) (CA INDEX NAME)

330191-53-2 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[(2R]-2-amino-1-oxo-3-phenylpropyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI)(CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) [(carboxycarbonyl)amino]-4,7-dihydro- (9C1) (CA INDEX NAME)

330191-48-5 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[[5-[(3,5-dimethoxyphenyl)methylene]-2,4-dioxo-3-thiazolidinyl]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330191-49-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dhydro-7-[[5-(lH-imidazol-4-ylmethylene)-2,4-dioxo-3-thiazolidinyl]methyl)- (9CI) (CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\$$

330191-55-4 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[2-(acetylamino)-3-methyl-1-cxobutyl]amino]methyl]-2-{(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

330191-56-5 CAPLUS
5H-Thieno(2,3-c)pyran-3-carboxylic acid, 5-[[5-(acetylamino)-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI) (CA INDEX NAME)

330191-57-6 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[4-(acetylamino)-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(SCI) (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330191-58-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7[(1,1-dioxido-3-cxo-1,2-benzisothiazol-2(3H)-yl)methyl]-4,7-dihydro- (9CI)
(CA INDEX NAME)

330191-59-8 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7-[(3-oxo-1,2-benzisoxazol-2(3H)-yl)methyl]- (9CI) (CA INDEX NAME)

330192-23-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[1,3-dihydro-1,3-dioxo-4-(phenylmethoxy)-2H-isoindol-2-yl]methyl]-4,7dihydro-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CRN 330191-42-9 CMF C26 H20 N2 O9 S

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330192-87-5 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[(2R)-2-amino-1-oxo-3-phenylproyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-,mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CRN 330191-53-2 CMF C20 H21 N3 O7 S

Absolute stereochemistry.

$$\begin{array}{c|c} & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\$$

2

CRN 76-05-1 CMF C2 H F3 02

330193-29-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7[(1,1-dioxido-3-oxo-5-phenyl-2(3H)-isothiazolyl)methyl]-4,7-dihydro- (9CI)
(CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

CN 2

CRN 76-05-1 CMF C2 H F3 O2

330192-28-4 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7[5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-b]pyridin-6-yl)methyl]-4,7-dihydro[9C1) (CA INDEX NAME)

330192-69-3 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(phenylmethyl)amino]carbonyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330193-30-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[([1,1-dioxido-5-phenyl-3-isothiazolyl)oxy]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330193-31-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(1,1-dioxido-3-oxo-5-phenyl-2(3H)-isothiazolyl)methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

330193-32-3 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-5- [([(1,1-dioxido-5-phenyl-3-isothiazolyl)oxy]methyl}-4,7-dihydro- (9CI) (CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330193-33-4 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(6-chloro-3,4-dihydro-3-oxo-1,1-dioxido-2H-thieno[3,2-e]-1,2,4-thiadiazin-2-yl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330193-34-5 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino}-5-[((6-chloro-1,1-dioxido-2H-thieno[3,2-e)-1,2,4-thiadiazin-3-yl)oxy]methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

330193-35-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarboxyl)amino]-4,7-dihydro-7-[(l-oxido-3-oxo-1,2-benzisothiazol-2(3H)-yl)methyl]- (9CI) (CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330193-39-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7[(1,3-dihydro-1-oxo-2H-isoindol-2-yl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330193-40-3 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[(1,3-dihydro-1-oxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 330193-39-0 CMF C19 H16 N2 07 S

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330193-36-7 CAPLUS 5H-Thieno[2, 3-c] pyran-3-carboxylic acid, 2-[(carboxycarboxyl) amino]-4,7-dihydro-5-[(1-oxido-3-oxo-1,2-benzisothiazol-2(3H)-yl) methyl]- (9CI) (CA INDEX NAME)

330193-37-8 CAPLUS 5H-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-((carboxycarbonyl)amino]-5-[(1,1-dioxido-5-(phenylmethyl)-1,2,5-thiadiazolidin-2-yl]methyl)-4,7-dihydro-(SCI) (CA INDEX NAME)

330193-38-9 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)anino]-5-[[5-ethyl-1,1-dioxido-1,2,5-thiadiazolidin-2-yl]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

(Continued)

330193-43-6 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(trifluoroacetyl)oxy]methyl]- (9CI) (CA INDEX NAME)

330193-44-7 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[1,3-benzodicxol-5-ylmethyl)amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- [9CI) (CA INDEX NAME)

330193-45-8 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[(1,3-benzodioxol-5-ylnethyl] amino] methyl]-2-[(carboxycarbonyl) amino]-4,7-dihydro-,bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 330193-44-7 CMF C19 H18 N2 O8 S

CN 2

CRN 76-05-1 CMF C2 H F3 O2

L4 ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330193-48-1 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[((2-methoxyphenyl)methyl]amino]methyl]- (9CI) (CA INDEX NAME)

330193-49-2 CAPLUS
5H-Thieno(2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-4,7-dihydro-5-[[[(2-methoxyphenyl)methyl]amino]methyl]-, trifluoroacetate (4:3) (9CI) (CA INDEX NAME)

CH 1

CRN 330193-48-1 CMF C19 H20 N2 O7 S

CM 2

CRN 76-05-1 CMF C2 H F3 O2

RN 330193-50-5 CAPLUS

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (9CI) (CA INDEX NAME)

Absolute stereochemistry.

330653-71-9 CAPLUS 5H-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[[(1,1-dioxido-1,2-benzisothiazol-3-yl)oxy]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330653-72-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-7[([1,1-dioxido-1,2-benzisothiazol-3-yl)oxy]methyl)-4,7-dihydro-, compd.
with ethyl acetate (5:3) (SCI) (CA INDEX NAME)

CM

CRN 330653-71-9 CMF C18 H14 N2 O9 S2

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[(1,3-benzodioxol-5ylacetyl) amino]methyl]-2-[(carboxycarbonyl) amino]-4,7-dihydro- (9CI) (CA
INDEX NAME)

330193-53-8 CAPLUS 5H-Thisno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dibydro-5-[[(5-methoxy-2-methyl-1H-indol-3-yl)carbonyl}amino]methyl]-(9C1) (CA INDEX NAME)

330653-66-2 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[(2R)-2-(acetylamino)-3-(4-hydroxyphenyl)-1-oxopropyl)amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

330653-69-5 CAPLUS SH-Thieno[2,3-c)pyran-3-carboxylic acid, 7-[[[(2R)-2-(acetylamino)-3-methyl-1-oxobutyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-methyl-1-0xobutyl]amino]-4,7-dihydro-methyl-1-0xobutyl-1-0xo

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

CM 2

CRN 141-78-6 CMF C4 H8 02

Et-O-Ac

330653-73-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[2-(acetylamino)-3-[4-hydroxyphenyl)-1-oxopropyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI) (CA INDEX NAME)

243968-53-8 330192-17-1 330192-21-7 330192-29-5 330192-65-3 RL: RCT (Reactant), RACT (Reactant or reagent)

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) (reactant, prepn. of 2-(oxalylamino)-4,7-dihydro-5H-thieno[2,3-c]pyran-3-carboxylic acids as PTPIB inhibitors for treatment of diabetes, impaired glucose tolerance, insulin resistance, obesity, and other diseases)

diseases)
24396e-53-8 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-(aminomethyl)-2-[[(1,1-dimethyl)ethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester
(SCI) (CA INDEX HAME)

330192-17-1 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[[1,1-dimethylethoxy] oxoactyl]amino]-4,7-dihydro-5-[[[(4-nitrophenyl]subjectyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-21-7 CAPLUS 330192-21-7 CAPUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-{[1,3-dihydro-1,3-dioxo-4-(phenylmethoxy)-2H-isoindol-2-yllmethyl]-2-{[(1,1-dimethylethoxy) oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (SCI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

ACCESSION NUMBER:
DOCUMENT NUMBER:
111LE:
11VENTOR(S):

INVENTOR(S):

Andersen, Henrik Sunse Hansen, Thomas Kruue; Iverson,
Lars Fogh; Lau, Jesper; Moller, Niels Peter Hundahl;
Olsen, Ole Hvilsted Axe, Frank Urban; Ge, Yu;
Holsworth, Daniel Dale; Jones, Todd Kevin; Judge, Luke
Milburn; Ripka, William Charles; Shapira, Barry Zvi;
Uyeda, Roy Teruyuki
Novo Nordisk A/S, Den.; Ontogen Corp.
PCT Int. Appl., 644 pp.
CODEN: PIXKD2
Patent

Patent English 1

LANGUAGE: FAMILY ACC. NUM. COUNT: PATENT INFORMATION:

PATENT NO.					KIN		DATE			APPL			DATE				
						-											
WO	WO 2001017516						2001	0315	1	WO 2	000-1	US24		20000911			
WO 2001017516					A3		20011108										
	W:	ΑĔ,	AG,	AL,	AM,	ΑT,	ΑU,	ΑZ,	BA,	BB,	BG,	BR,	ΒY,	ΒZ,	CA,	CH,	CN,
		CR,	CU,	CZ,	DE,	DK,	DM,	EE,	ES,	FI,	GB,	GD,	GE,	HR,	ΗU,	ID,	IL,
		IN,	IS,	JP,	ΚE,	KG,	ΚP,	KR,	ΚZ,	LC,	LK,	LR,	LS,	LT,	LU,	LV,	MA,
		MD,	MG,	MK,	MN,	MW,	MX,	ΜZ,	NO,	ΝZ,	PL,	PT,	RO,	RU,	SD,	SE,	SG,
		SI,	SK,	SL,	ΤJ,	TM,	TR,	TT,	ΤZ,	UA,	UG,	UΖ,	VN,	YU,	ZA,	ΖW,	ΑM,
		AZ,	ΒY,	KG,	ΚZ,	MD,	RU,	ΤJ,	TM								
	RW:	GH,	GM,	ΚE,	LS,	MW,	MZ,	SD,	SL,	SZ,	TZ,	UG,	Z₩,	ΑT,	ΒE,	CH,	CY,
		DE,	DK,	ES,	FI,	FR,	GB,	GR,	ΙE,	ΙT,	LU,	MC,	NL,	PT,	SE,	BF,	ΒJ,
		CF,	CG,	CI,	CM,	GΑ,	GN,	G₩,	ML,	MR,	ΝE,	SN,	TD,	TG			
EP	EP 1214060			A2 20020619				EP 2	000-	9633		2	0000	911			
	R:	ΑT,	BE,	CH,	DE,	DK,	ES,	FR,	GB,	GR,	ΙT,	LI,	LU,	NL,	SE,	MC,	PT,
		IE,	SI,	LT,	LV,	FI,	RO,	MK,	CY,	AL							
PRIORITY	APP	LN.	info	. :						DK 1	999-	1279		- 2	A 1	9990	910
									1	US 1	999-	1566	41P	1	P 1	9990	929
									1	WO 21	000-	JS24	761		7 2	0000	911

ANSWER 7 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) 330192-29-5 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 7-(aminomethyl)-2-[[(1,1-dimethylethoxy) oxacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-85-3 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{[[1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-5-(hydroxymethyl)-,1,1-dimethylethyl ester [9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

The present invention provides a method of inhibiting protein tyrosine phosphatases (PTPases, PTPs), such as PTP1B, TC-PTP, CO45, SHP-1, PTP4, PTP8, PTP9, PTP D1, PTP D2, PTPH, and PTP-LAR, by administration of compds. which have structural, phys., and spatial characteristics that allow them to interact with an aspartic acid residue at position 48 of PTP1B and/or TC-PTP. Prepns. for over 100 thieno[2,3-c]pyrans and thieno[2,3-c]pyridines (1) [wherein n = 0-2; m = 0-2; and m = n ≥ 1; X = S, O, NR8; Y = NR8, O, S, SO, SO2; R1 = H, CO2R3, or a 5-membered heterocycle such as tetrazoly1, 3-hydroxyjsoxazoly1, 3-hydroxyjsocthiazoly1, 3-hydroxypyrazoly1, 2-(hydroxy or thio)-1,3,4-0xadiazoly1, 2-oxoimidazoly1, 3-hydroxypyrazoly1, 2-(hydroxy or thio)-1,3,4-0xadiazoly1, 2-oxoimidazoly1, 3-hydroxypyrazoly1, 2-(hydroxy or thio)-1,3,4-0xadiazoly1, 2-oxoimidazoly1, aryl. GH, oxo. CO2H, carboxyslky1, (ar)alkyl. arylalky1, aryl

Page 20

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) 243967-73-9 CAPLUS 5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(1,3-dihydro-4-hydroxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-(9C1) (CA INDEX NAME)

330191-26-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7[(1,3-dihydro-5-mathoxy-1,3-dioxo-2H-isoindol-2-yl)mathyl]-4,7-dihydro[9C1] (CA INDEX NAME)

330191-58-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7[(1,1-dioxido-3-oxo-1,2-benzisothiazol-2(3H)-yl)methyl]-4,7-dihydro- (9CI)
(CA INDEX NAME)

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (CA INDEX NAME) (Continued)

330192-20-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-5-methoxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-22-8 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-{(1,3-dihydro-4-hydroxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-2-{([1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-24-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-1,3-dioxo-2H-benz[f]ioxindol-2-yl]nethyl]-2-[([1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330192-16-0P 330192-18-2P 330192-20-6P 330192-22-9P 330192-22-9P 330192-24-0P 330192-25-1P 330192-27-3P 330192-30-8P 330192-30-19P 330192-30-8P 330192-30-19P 330192-30-8P 330192-30-1P 330192-30-8P 330192-30-1P 330192-30-1P 330192-30-1P 330192-50-2P 330192-51-3P 330192-56-8P 330192-50-2P 330192-51-P 330192-56-8P 330192-56-9P 330192-59-1P 330192-51-P 330192-50-8P 330192-50-2P 330192-51-3P 330192-50-1P 330193-50-3P 30193-50-3P 330193-50-3P 30193-50-3P 330193-50-3P 330193-

330192-18-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[[1,1-dimethylethoxy]oxoacetyl]amino]-4,7-dihydro-5-[(4,5,6,7-tetrachloro-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl]-, 1,1-dimethylethyl ester (9CI)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330192-25-1 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[5-(acetylamino)-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl]methyl]-2-{[(1,1-dimethylethoxy)oxoacetyl]amino ]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-27-3 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(5,7-dihydro-5,7-dioxo-6Hpyrrolo[3,4-b]pyrazin-6-yl)methyl]-2-[([1,1-dimethylethoxy)oxoacetyl]amino
]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-30-8 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[(5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-b]pyridin-6-yl]methyl]-2-[([1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330192-31-9 CAPLUS 5H-Thieno[2, 3-c]pyran-3-carboxylic acid, 5-[{5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-b]pyridin-6-yl]methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-32-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-1,3-dioxo-ZH-pyrrolo[3,4-c]pyridin-2-yl]methyl]-2-[([1,1-dimethylethoxy]oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-33-1 CAPLUS 330192-33-1 Carlon State State

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330192-41-1 CAPLUS
5H-Thienc[2,3-c]pyran-3-carboxylic acid, 5-[[4-{(4-chlorophenyl}thio]-1,3-dihydro-6-methyl-1,3-diox-2H-pyrrolo[3,4-c]pyridin-2-yl]methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-43-3 CAPLUS
5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-5-[[3-(1H-imidazol-1-yl)-2,5-dioxo-1-pyrrolidinyl]methyl)-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-46-6 CAPLUS Ethanedicic acid, {3-[(1,1-dimethylethoxy)carbonyl}-2-[[(1,1-dimethylethoxy)oxacetyl]amino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl methyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330192-36-4 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[1,3-dihydro-5-(methoxynethoxy)-1,3-dioxo-2H-isoindol-2-yl]methyl]-2-[[(1,1-dimethylethoxy) oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (SCI) (CA INDEX NAME)

330192-39-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-4-methoxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-39-7 CAPLUS
5M-Thieno[2,3-c]pyren-3-carboxylic acid, 5-{(1,3-dihydro-4-nitro-1,3-dioxo-2H-isoindol-2-yl)nethyl]-2-{((1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME) RN CN

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330192-50-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[[1,1-dimethylethoxy]oxoacetyl]amino]-4,7-dihydro-7-[[(triethyleilyl)oxy]methyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX RAME)

330192-51-3 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethxy) oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

330192-52-4 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[[1,1-dimethylethoxy]oxoacetyl]amino]-4,7-dihydro-7-(hydroxymethyl)-,1,1-dimethylethyl ester (9Cl) (CA INDEX NAME)

330192-53-5 CAPLUS

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
CN SH-Thleno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-7-[[[(4-nitrophenyl)sulfonyl]oxy]methyl}-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-55-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[{(1,1dimethylethoxy)oxoacetyl] maino]-7-{(2,4-dioxo-3-thiazolidinyl)methyl}-4,7dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-56-8 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)oxy]methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dibydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330192-59-1 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[1,3-dihydro-4-(methoxynethoxy)-1,3-dioxo-ZH-isoindol-2-yl]methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-61-5 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[(1,3-benzodioxol-5-ylcarboxyl)amino]methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330192-63-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[[2,4-dimethoxyphenyl]amino]carbonyl]amino]methyl}-2-[[(1,1-dimethylethoxy)coxacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-68-2 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-5-[(phenylamino)carbonyl]-,
1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330192-71-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-5[[(phenylmethyl)amino]carbonyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-72-8 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3,7-dicarboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 3-(1,1-dimethylethyl)7-ethyl ester (9CI) (CA INDEX NAME)

RN 330192-76-2 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylathoxy)oxoacetyl]amino]-4,7-dihydro-7[((phenylmethyl)amino]carbonyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330192-78-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[({1,1-dimethylethoxyloxoacetyl]amino]-4,7-dihydro-7-[[[(4-(methylethylethoxyl)phenyl]acetyl]amino]methyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

PAGE 2-A

RN 330192-81-9 CAPLUS

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 330192-86-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy]oxoacetyl]amino]-5-[(1,3,4,5,6,7-hexahydro-1,3-dioxo-4,7-epoxy-2H-isoindol-2-yl)methyl]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-90-0 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[(2R)-2-[{(1,1-dimethylethoxy)carbonyl]amino]-1-oxo-3-phenylpropyl]amino]methyl]-2-[[(1,1-dimethylethoxy)cxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester
(9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
CN 3-Pyridinecarboxylic acid, 2-[[[3-[(1,1-dinethylethoxy)carbonyl]-2-[[(1,1-dimethylethoxy)cwacetyl]amino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl]amino]carbonyl]- (9C1) (CA INDEX NAME)

RN 330192-82-0 CAPLUS
CN 5H-Thieno(2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-7-[[2,4-dioxo-5-[2-pyridinylmethylene)-3-thiazolidinyl]methyl]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

RN 330192-84-2 CAPLUS
CN 5H-Thieno(2,3-c]pyran-3-carboxylic acid, 2-{[(1,1-dimethyl)ethoxy) sowacetyl]amino]-7-{(2,4-dioxo-5-(2-pyridinylmethyl)-3-thiazolidinyl]methyl}-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330192-91-1 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[((2R)-2-{acetylamino}-3-(4-hydroxyphenyl)-1-oxopropyl]amino]methyl]-2-[((1,1-dimethylethoxy) oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

RN 330192-93-3 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[(2R)-2-{acetylamino}-3-methyl-1-oxobutyl]amino]nethyl]-2-[((1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Absolute stereochemistry.

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

i-Pr R OBu-t

RN 330193-42-5 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[(1,3-dihydro-1-oxo-2H-isoindol-2-yl)methyl]-2-[([1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX HAME)

CH2 S NH-C-C-OBu-t

RN 330193-46-9 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-5-formyl-4,7-dihydro-, 1,1-dimethylethylette (9CI) (CA INDEX NAME)

OHC S NH-C-C-OBu-t

RN 330193-47-0 CAPLUS
CN 5H-Thieno(2,3-c)pyran-3-carboxylic acid, 5-[[(1,3-benzodioxol-5y/methyl)amino]methyl]-2-[([1,1-dimethylethoxy)oxoacetyl]amino]-4,7-

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

HO2C CH2 S NH-C-C-OBU-t

RN 330193-58-3 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[{1,3-dihydro-1,3-dioxo-5-[[proylamino] carbonyl]-ZH-isolndol-2-yl]methyl]-2-[[{1,1-dimethylethoxyloxoacetyl]mino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

n-FrNH-

IT 243968-53-8 330192-17-1 330192-21-7
330192-29-5 330192-85-3
RL: RCT (Reactant), RACT (Reactant or reagent)
(reactant) structure-based design and preparation of selective inhibitors of protein tyrosine phosphatases)
RN 243968-53-8 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-(aminomethyl)-2-[[(1,1-dimethylethoxyloxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9C1)

H<sub>2</sub>N-CH<sub>2</sub> S NH-C-C-OBu-t

RN 330192-17-1 CAPLUS
CN Sht-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-5-[[(4-nitrophenyl)sulfonyl]oxylmethyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

t-Bu0-C-NH-CH2-NH-CH2-

RN 330193-52-7 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[(1,3-benzodioxol-5-ylacetyl)amino]methyl]-2-[[(1,1-dimethylathoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylathyl ester (9CI) (CA INDEX NAME)

CH2-C-NH-CH2-S

RN 330193-55-0 CAPLUS CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-5-[[(5-methoxy-2-methyl-1H-indol-3-yl)carbonyl]amino]methyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Me OBu-t OBu-t NH-C-OBu-t

RN 330193-57-2 CAPLUS
CN 1H-Isoindole-5-carboxylic acid, 2-[[3-[(1,1-dimethylethoxy)carbonyl]-2-[[(1,1-dimethylethoxy)dethoxy]oxoacetyl]amino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl]-2,3-dihydro-1,3-dioxo-(9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330192-21-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[1,3-dihydro-1,3-dioxo-4-[phenylmethoxy]-2H-isoindol-2-yl]methyl]-2-[[[1,1-dimethylethoxy] oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester [9CI] (CA INDEX NAME)

Fh-CH<sub>2</sub>-0

RN 330192-29-5 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 7-(aminomethyl)-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (SCI) (CA INDEX NAME)

RN 330192-85-3 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-5-(hydroxymethyl)-,
1,1-dimethylethyl ester [9CI] (CA INDEX NAME)

 $\begin{array}{c|c} & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & \\ & & & \\ & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ & & \\ &$ 

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) L4

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005
243967-61-5P 243967-62-6P 243967-73-12-9P
243967-64-6P 243967-71-7P 243967-72-8P
243967-73-9P 243967-74-0P 243967-73-19
243967-31-9P 330191-23-6P 330191-24-7P
330191-25-0P 330191-26-9P 330191-27-0P
330191-26-1P 330191-26-9P 330191-37-8P
330191-31-6P 330191-32-7P 330191-33-8P
330191-34-9P 330191-35-0P 330191-33-8P
330191-37-9P 330191-35-0P 330191-33-4P
330191-37-0P 330191-41-8P 330191-39-4P
330191-40-7P 330191-41-8P 330191-31-9-4P
330191-46-3P 330191-47-4P 330191-51-0P
330191-52-1P 330191-53-2P 330191-51-0P
330191-52-4P 330191-55-5P 330191-51-0P
330191-52-4P 330191-53-2P 330191-51-76
330191-53-2P 330193-33-2P 330193-31-78-8P
330193-35-6P 330193-36-7P 330193-31-8-5P
330193-35-6P 330193-36-7P
330193-35-6P 330193-36-7P
330193-35-6P 330193-36-7P
330193-35-6P 330193-36-7P
330193-35-6P 330193-36-7P
330193-35-6P 330193-36-7P
330193-35-6P
330193-35-6P
330193-35-6P
330193-35-6P
330193-35-6P
330193-35-6P
XL: BAC (Biological activity or effectudy. unclassified); SPN (Synthetic Drutuy).

330193-53-e98
RE: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SFN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses) (structure-based design and preparation of selective inhibitors of

protein

tyrosine phosphatases)
243967-61-5 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(5,7-d)hydro-5,7-dioxo-6H-pyrrolo[3,4-b]pyridin-6-yl)methyl]-4,7-dihydro(9CI) (CA INDEX NAME)

243967-62-6 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-c]pyridin-6-yl)mathyl]-4,7-dihydro-(SCI) (CA INDEX NAME)

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1,3-dihydro-5-mathoxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro[SCI) (CA INDEX NAME)

243967-73-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5[(1,3-dihydro-4-hydroxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro[9CI) (CA INDEX NAME)

243967-74-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1,3-dihydro-4-mathoxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro(9C1) (CA INDEX NAME)

243967-75-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarboxyl)amino]-5-[(1,3-dihydro-4-nitro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-{9Cl} (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243967-63-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-b]pyrazin-6-yl)methyl]-4,7-dihydro[9CI) (CA INDEX NAME)

243967-64-8 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-((carboxycarbonyl)amino]-5-[(1,3-dihydro-5-nitro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-(9C1) (CA INDEX NAME)

243967-71-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl) amino]-5[(1,3-dihydro-5-hydroxy-1,3-dioxo-2H-isoindol-2-yl) mathyl)-4,7-dihydro[(SCI) (CA INDEX NAME)

RN 243967-72-8 CAPLUS

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

243967-81-9 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[1,3-dihydro-1,3-dioxo-5-[(propylamino)carbonyl]-2H-isoindol-2-yl]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330191-23-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(4-chloro-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro- (SCI) (CA INDEX NAME)

330191-24-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7[(2,4-dioxo-3-thiazolidinyl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330191-25-8 CAPLUS SH-Thisno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[(4,5,6,7-tetrachloro-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl}- (9CI) (CA INDEX NAME)

330191-26-9 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[(1,3-dihydro-5-methoxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-(SCI) (CA INDEX NAME)

330191-27-0 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5-([1,3-dihydro-1,3-dioxo-2H-benz[f]isoindol-2-yl)methyl]-4,7-dihydro-(GCI) (CA INDEX NAME)

$$\underset{HO_2C-C-NH}{\text{HO}_2C-C-NH} \underset{CO_2H}{\longleftarrow} \underset{CH_2}{\overset{\bullet}{\longleftarrow}} \underset{O}{\overset{\bullet}{\longleftarrow}}$$

RN CN

330191-28-1 CAPLUS Ethanedicic acid, [3-carboxy-2-[(carboxycarbonyl)amino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl methyl ester (9CI) (CA INDEX NAME)

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330191-32-7 CAPLUS 5H-Thieno[2,3-c)pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-4,7-dinydro-5-[[3-(1H-imidazol-1-yi)-2,5-dioxo-1-pyrrolidinyl]methyl]- (9CI) (CA INDEX NAME)

330191-33-8 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dibydro-5-([phenylamino]carbonyl]- (9CI) (CA INDEX NAME)

330191-34-9 CAPLUS 5H-Thieno[2,3-c]pyran-3,7-dicarboxylic acid, 2-[{carboxycarbonyl}amino}-4,7-dihydro-, 7-ethyl ester (9CI) (CA INDEX NAME)

SAEED

RN 330191-35-0 CAPLUS

Page 27

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330191-29-2 CAPLUS
Ethanedioic acid, mono[[3-carboxy-2-{(carboxycarbonyl)amino}-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl] ester (9CI) (CA INDEX NAME)

330191-30-5 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydroxymethyl]- (9C1) (CA INDEX NAME)

330191-31-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-{[[1,3-benzodioxol-5-ylcarbonyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(CA INDEX NAME)

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7-[[(phenylmethyl)amino]carbonyl]- (9CI) (CA INDEX NAME)

330191-36-1 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl) amino]-5-{[4-(4-chlorophenyl) thio]-1,3-dihydro-6-methyl-1,3-dioxo-2H-pyrrolo[3,4-c]pyridin-2-yl]methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

330191-37-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[[(1,3-di)ydro-1,3-dioxo-2H-isoindol-2-yl)oxy]methyl]-4,7-dihydro- (9C1)(CA INDEX NAME)

330191-38-3 CAPLUS
5H-Thiano[2,3-clpyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7[(1,3-dihydro-4-hydroxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) (9CI) (CA INDEX NAME)

RN 330191-39-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-7[[[(2,4-dimethoxyphenyl)amino]carbonyl]amino]methyl]-4,7-dihydro- (9CI)
(CA INDEX NAME)

RN 330191-40-7 CAPLUS S-Pyridinecarboxylic acid, 2-[[[[3-carboxy-2-[(carboxycarbonyl)amino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl]amino]carbonyl]- (9CI) (CA INDEX NAME) L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 330191-41-8 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(4-fluoro-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl)-4,7-dihydro- (9CI)
(CA INDEX NAME)

RN 330191-42-9 CAPLUS
SH-Thieno[2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[1,3-dihydro-1,3-dioxo-4-(phenylmethoxy)-2H-isoindol-2-yl]methyl]-4,7dihydro- (SCI) (CA INDEX NAME)

RN 330191-43-0 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[(5,7-dihydro-5,7-dioxo-6H-1,3-dioxolo[4,5-f]isoindol-6-yl)methyl]-4,7dihydro- (9C1) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 330191-44-1 CAPLUS

N 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7[[2,4-dioxo-5-(2-pyridinylmethylene)-3-thiazolidinyl]methyl]-4,7-dihydro(9CI) (CA INDEX NAME)

RN 330191-45-2 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7[[2,4-dloxo-5-(2-pyridinylmethyl)-3-thiazolidinyl]methyl]-4,7-dlhydro[9CI] (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330191-46-3 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7-[[5-[(4-methoxyphenyl)methylene]-2,4-dioxo-3-thiazolidinyl]methyl]- (SCI) (CA INDEX NAME)

RN 330191-47-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[5-[[4(acetylamino)]phenyl]methylene]-2,4-dioxo-3-thiazolidinyl]methyl]-2[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330191-48-5 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[[5[(3,5-dimethoxyphenyl)methylene]-2,4-dioxo-3-thiazolidinyl]methyl}-4,7dihydro-(9CI) (CA INDEX NAME)

RN 330191-49-6 CAPLUS CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7-[[5-(H-imidazol-4-ylmethylene)-2,4-dioxo-3-thiazolidinyl]methyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330191-52-1 CAPLUS
CN 5H-Thieno(2,3-c|pyran-3-carboxylic acid, 7-[((2-amino-1-oxo-3-phenylpropyl) amino]methyl]-2-[(carboxycarbonyl) amino]-4,7-dihydro-(CA INDEX NAME)

RN 330191-53-2 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[((2R)-2-amino-1-oxo-3-phenylpropyl)amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI)(CA INDEX NAME)

Absolute stereochemistry.

RN 330191-54-3 CAPLUS
CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[2-[[[1,1-dimethylethoxy]carbonyl]amino]-1-oxo-3-phenylpropyl]amino]methyl]-2-[[[1,1-dimethylethoxy]oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester
(9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330191-50-9 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7-[[[[4-(methylsulfonyl)phenyl]acetyl]amino]methyl]- (9CI) (CA INDEX NAME)

RN 330191-51-0 CAPLUS
CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1,3,4,5,6,7-hexahydro-1,3-dioxo-4,7-epoxy-2H-isoindol-2-yl)mathyl]-4,7dibydro- (9CI) (CA INDEX NAME)

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 330191-55-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[[[2-(acetylamino)-3-methyl-1-oxobutyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 330191-56-5 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-{[5-(acetylamino)-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(901) (CA INDEX NAME)

RN 330191-57-6 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[4-(acetylamino)-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(SCI) (CA INDEX NAME)

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330191-58-7 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-7-{(1,1-dioxido-3-oxo-1,2-benzisothiazol-2(3H)-yl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330191-59-8 CAPLUS
5H-Thieno(2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7-[(3-oxo-1,2-benzisoxazol-2(3H)-yl)methyl]- (9CI) (CA INDEX NAME)

330192-23-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[1,3-dihydro-1,3-dioxo-4-(phenylmethoxy)-2H-isoindol-2-yl]methyl]-4,7-

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(phenylmethyl)amino]carbonyl]- (9CI) (CA INDEX NAME)

330192-87-5 CAPLUS
5H-Thieno(2, 3-c)pyran-3-carboxylic acid, 7-[[((2R)-2-amino-1-oxo-3-phanylpropyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-,mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CRN 330191-53-2 CMF C20 H21 N3 O7 S

Absolute stereochemistry.

330193-29-8 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[(1,1-dioxido-3-oxo-5-phenyl-2(3H)-isothiazolyl)methyl]-4,7-dihydro-(CA INDEX NAME)

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) dihydro-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

CM 1

CRN 330191-42-9 CMF C26 H20 N2 09 S

CH 2

330192-28-4 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-7[(5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-b)pyridin-6-yl)methyl]-4,7-dihydro[9CI) (CA INDEX NAME)

RN 330192-69-3 CAPLUS

ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330193-30-1 CAPLUS 5H-Thieno[2,3-e]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-7-{((1,1-dioxido-5-phenyl-3-isothiazolyl)oxy|methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330193-31-2 CAPLUS 5H-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-5-{(1,1-dioxido-3-oxo-5-phenyl-2(3H)-isothiazolyl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330193-32-3 CAPLUS SH-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[(1,1-dioxido-5-phenyl-3-isothiazolyl)oxy]methyl]-4,7-dihydro- [9CI) (CA INDEX NAME)

### L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330193-33-4 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5-{(6-chloro-3,4-dhhydro-3-oxo-1,1-dioxido-2H-thieno[3,2-e]-1,2,4-thiadiazin-2-yl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

330193-34-5 CAPLUS SH-Thieno[2,3-c]pyren-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[(6-chloro-1,1-dioxido-2H-thieno[3,2-e]-1,2,4-thiadiazin-3-yl)oxy]methyl}-4,7-dihydro-(9CI) (CA INDEX NAME) RN CN

330193-35-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-7-[(l-oxido-3-oxo-1,2-benzisothiazol-2(3H)-yl)methyl]- (9CI) (CA INDEX NAME)

# L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

330193-36-7 CAPLUS 5H-Thieno[2, 3-c] pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[(l-oxido-3-oxo-1,2-benzisothiazol-2(3H)-yl)methyl]- (9CI) (CA INDEX NAME)

(Continued)

330193-37-8 CAPLUS 5H-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-((carboxycarbonyl)amino]-5-[[1,1-dioxido-5-(phenylmethyl)-1,2,5-thiadiazolidin-2-yl]methyl]-4,7-dihydro-(SCI) (CA INDEX NAME)

330193-38-9 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5-{{5-cthyl-1,1-dioxido-1,2,5-thiadiazolidin-2-yl]methyl}-4,7-dihydro- (9CI) (CA INDEX NAME)

### ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330193-40-3 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-7-{(1,3-dihydro-1-oxo-ZH-isoindol-2-yl)methyl]-4,7-dihydro-, mono(trifluoroacetate) (9CI) (CA INDEX NAME)

### CM 1

CRN 330193-39-0 CMF C19 H16 N2 07 S

### CM 2

CRN 76-05-1 CMF C2 H F3 O2

330193-43-6 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[(trifluoroacetyl)oxy]methyl]- (SCI) (CA INDEX NAME)

### Page 31

SAEED

### L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330193-45-8 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[(1,3-benzodioxol-5-ylnethyl)amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-, bis(trifluoroacetate) (9CI) (CA INDEX NAME)

CRN 330193-44-7 CMF C19 H18 N2 O8 S

CM 2

CRN 76-05-1 CMF C2 H F3 02

330193-49-2 CAPLUS 5H-Thieno[2,3-e]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(2-methoxyphenyl)methyl]amino]methyl]-, trifluoroacetate (4:3) (9CI) (CA INDEX NAME)

CM 1

CRN 330193-48-1 CMF C19 H20 N2 O7 S

CM 2

CRN 76-05-1 CMF C2 H F3 O2

L4 ANSWER 8 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

330193-50-5 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[(1,3-benzodioxol-5-ylacetyl)amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dibydro- (9CI) (CA INDEX NAME)

330193-53-8 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(5-methoxy-2-methyl-1H-indol-3-yl)carbonyl]amino]methyl](9C1) (CA INDEX NAME)

$$\begin{array}{c} \text{Me} \\ \text{O} \\ \text{C} \\ \text{NH} \\ \text{C} \\$$

ANSWER 9 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

REFERENCE COUNT:

THERE ARE 46 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 9 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 2000:438570 CAPLUS
DOCUMENT NUMBER: 133:219278
TITLE: Residue 259 is a key determinant of substrate specificity of protein-tyrosine phosphatases 1B and

AUTHOR (5):

α Peters, Gunther H., Iversen, Lars Fogh; Branner, Sven; Andersen, Henrik Sune; Mortensen, Steen B.; Olsen, Ole Hvilsted; Moller, Karin Bach; Moller, Niels Peter

Hundahl
Department of Chemistry, Hembrane and Statistical
Physics Group (MEMFHS), Technical University of
Denmark, Lyngby, DK-2800, Den.
Journal of Biological Chemistry (2000), 275(24),
18201-18209 CORPORATE SOURCE:

SOURCE:

CODEN: JBCHA3; ISSN: 0021-9258 American Society for Biochemistry and Molecular PUBLISHER:

Biology Journal DOCUMENT TYPE:

LANGUAGE: English
AB The aim of this study was to define the structural elements that determine the

differences in substrate recognition capacity of two protein-tyrosine phosphatases (PTPs), PTP1B and PTPs, both suggested to be neg. regulators of insulin signaling. Since the AcDADE(pY)1-NH2 peptide is well recognized by PTP1B, but less efficiently by PTPs, it was chosen as a tool for these analyses. Ca regiovariation analyses and primary sequence alignments indicate that residues 47, 48, 258, and 259 (PTP1B numbering) define a selectivity-determining region. By analyzing a

rivin numbering define a selectivity-determining region. By analyzing of DADE(pY)L analogs with a series of PTP mutants in which these four residues were exchanged between PTPIB and PTPα, either in combination or alone, we here demonstrate that the key selectivity-determining residue is 259. In PTPα, this residue is a glutamine causing steric hindrance and in PTPIB a glycine allowing broad substrate recognition. Significantly, replacing Gln259 with a glycine almost turns PTPα into a PTPIB-like enzyme. By using a novel set of PTP inhibitors and x-ray orystallog, we further provide evidence that Gln259 in PTPα plays a dual role leading to restricted substrate recognition (directly via steric hindrance) and reduced catalytic activity (indirectly via Gln262). Both effects may indicate that PTPα regulates highly selective signal transduction processes.

IT 243966-19-0
RL: BAC (Biological activity or effector, except adverse), BSU (Biological activity or effector, except adverse), BSU (Biological activity or effector, except adverse), BSU (Biological activity or effector).

243966-19-0

RL: BAC (Biological activity or effector, except adverse); BSU (Biological study) unclassified); PRP (Properties); BIOL (Biological study) (reaction kinetics of peptides with protein-tyrosine phosphatases 1B and a wild-type and mutant forms and crystal structure studies of 1B isoenzyme)

243966-19-0 CAPLUS
5H-Thieno(2,3-c)thiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 10 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER:
DOCUMENT NUMBER:
133:70565
STRUCTURE-based design of a low molecular weight,
nonphosphorus, nonpeptide, and highly selective
inhibitor of protein-tyrosine phosphatase IB
IVersen, Lars Fogh: Andersen, Henrik Sune: Branner,
Sven; Mortensen, Steen B.; Peters, Gunther H.; Norris,
Kjeld; Olsen, Ole Hvilsted; Jeppesen, Claus Bekker;
Lundt, Behrend F.; Ripka, William; Moller, Karin Bach;
Moller, Niels Peter Hundahl
Protein Chemistry, Bagavaerd, DK-2880, Den.
JOUNGE:
OURCE:

PUBLISHER:
American Society for Biochemistry and Molecular
Biology
DOCUMENT TYPE:
LANGUAGE:
JOURNAL SOURCE
JOURNAL SOURCE
Biology
DOCUMENT TYPE:
LANGUAGE:
AMERICAN SOCIETY AND SOCIETY AND MOLECULAR SOCIETY

English

INAGE: English
Several protein-tyrosine phosphatases (PTPs) have been proposed to act as
neg, regulators of insulin signaling. Recent studies have shown increased
insulin sensitivity and resistance to obesity in PTP1B knockout mice, thus
pointing to this enzyme as a potential drug target in diabetes.
Structure-based design, guided by PTP mutants and x-ray protein
crystallog, was used to optimize a relatively weak, nonphosphorus,
nonpeptide general PTP inhibitor (2-(owaly1-amino)-benzoic acid) into a
highly selective PTPB inhibitor. This was achieved by addressing residue
48 as a selectivity determining residue. By introducing a basic nitrogen
the

ne core structure of the inhibitor, a salt bridge was formed to Asp-48 in PTPlB. In contrast, the basic nitrogen causes repulsion in other PTPs containing an asparagine in the equivalent position resulting in a

rkable
selectivity for PTPIB. Importantly, this was accomplished while retaining
the mol. weight of the inhibitor below 300 g/mol.
243967-41-1
RL: BAC (Biological activity or effector, except adverse); BSU (Biological
study, unclassified); PRP (Properties); BIOL (Biological study)
(structure-based design of a low mol. weight, nonphosphorus, nonpeptide,
and highly selective inhibitor of protein-tyrosine phosphatase 1B)
243967-41-1 CAPLUS
SH-Thieno(2,3-c)pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-4,7dihydro- (9CI) (CA INDEX NAME)

243967-41-1D, complexes with protein-tyrosine phosphatase 1B RL: PRP (Properties) (structure-based design of a low mol. weight, nonphosphorus, nonpeptide, and highly selective inhibitor of protein-tyrosine phosphatase 1B) 243967-41-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-

ANSWER 10 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN dihydro- (9CI) (CA INDEX NAME) (Continued)

REFERENCE COUNT:

THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT 43

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

Thieno[2,3-c]pyrans and thieno[2,3-c]pyridines (I) [A = atoms to complete various 5/5 and 5/6 bicyclic heterocycles, e.g., thienopridines, thieno(thio)pyrans, benzothiophenes, etc.; Ri and R2 = independently acyl, OH or derivs., CF3, NO2, cyano, SOSH, (un)substituted NH2 or PO3H2, or various 5-membered heterocycles; R4 = H, OH, alkyl, (un)substituted aryl or aralkyl, (un)substituted NH2, alkowyl were prepared as inhibitors of Protein Tyrosine Phosphatases (PTPases) such as PTPIB, CD45, SHP-1, SHP-2, PTPa, LAR, and HeFTF. The compds. are useful in the treatment of type I diabetes, type II diabetes, simpaired glucose tolerance, insulin resistance, obesity, immune dysfunctions including autoimmunity diseases with degrees of the coaquilation system, allergic diseases including asthma, osteoporosis, proliferative disorders including cancer and psoriasis, diseases with decreased or increased synthesis or effects of growth hormone, diseases with decreased or increased synthesis of hormones or cytokines that regulate the release of/or response to growth hormone, diseases, for instance, 2-amino-6-benzoyl-4,56,7-tetrahydrothieno[2,3-c]pyridine-3-carboxylic acid Et ester was amidsted with Et oxalyl chloride in THF (84%), followed by hydrolysis of the ester function with NaOR in aqueous solution to give the title compound(II) as the mono-Na salt (III) in 79% yield. In an in vitro test against PTPIB expressed in E. coli and purified by known methods, III had a Ki of 51 pH4.

SAEED Page 33

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN
ACCESSION NUMBER: 1999:595178 CAPLUS
131:243258

TITLE: 131:243258
Preparation of thieno[2,3-c]pyrans and thieno[2,3-c]pyridines as modulators of protein tyrosine phosphatases (PTPases)
Moller, Niels Peter Hundahl; Andersen, Henrik Sune; Iversen, Lars Fogh, Olsen, Ole Hvilated; Branner, Sven; Holsworth, Daniel Dale; Bakir, Farid; Judge, Luke Milburn; Axe, Frank Urban; Jones, Todd Kevin; Ripka, Wiliam Charles; Ge, Yu; Uyeda, Rey Teruyuki
SOURCE: PIXXD2

DOCUMENT TYPE: PIXXD2
Patent

DOCUMENT TYPE: Patent English 6

LANGUAGE: FAMILY ACC. NUM. COUNT:

PA			DATE																
WO	WO 9946267				A1				WO			19990311							
	W:	AE,	AL,	AM,			AZ,												
							GB,												
							KZ,												
		MN,	MV.	MX,	NO,	NZ,	PL,	PT.	RO,	RU	, SD	SE,	SG,	SI,	51	, SL	ŤJ,		
		TM,	TR,	TT,	UA,	UG,	UZ,	VN,	YU,	ZW	, AM	, AZ,	BY,	KG,	K2	, MD	, RU		
		ΤJ,																	
	RW:																		
							IE,						SE,	BF,	ΒJ	, CF	, CG,		
		CI,	CH,	GA,	GN,	G₩,	ML,	MR,	NE,	SN	I, TD	, TG							
CA	2323	493			AA		1999	0916		CA 1999-2323493 AU 1999-27135 BR 1999-8726 EP 1999-907332						19990311			
AU	9927	135			A1		1999	0927		ΑU	1999	-2713	15			1999	0311		
BR	9908	726			A		2000	1121		BR	1999	-8726	•			1999	0311		
EP	1080	095			A1		2001	0307		ΕP	1999	-9073	32			1999	0311		
	R:					DK,	ES,	FR,	GB,	GF	, IT.	, LI,	LU,	NL,	SE	, PT	, IE,		
			LT,		RO														
	6262				B1		2001												
JP	2002	5060	72		T2		2002	0226		JP	2000	-5356	45			1999	311		
ZA	9902 2000 6410 2003 Y APP	036			A		1999	1001		ZA	1999	-2036	•			1999	312		
NO	2000	0045	21		Α.		2000	1107		NO	2000	-4527				2000	1911		
US	6410	586			BI		2002	0625		US	2001	-8102	66			2001	316		
05	2003	0692	6/		AI		2003	0410		US	2002	-1584	04			2002	1528		
PRIORIT	YAPP	LN.	INFO	. :						DK	1998	-344			۸	1998	3312		
										DK.	1220	-480			۰	1998	1403		
										DK	1998	-938			۸.	1998	1/12		
										DIK	1990	1512			•	1998	1028		
										DK.	1339	-1012 -8291	En.		^	1000	1207		
												-9352							
												-9352 -1087							
										116	1000	- 100 /	4/1		12	1000	1111		
										MV.	1000	-2684	1	,	ผ	1000	1311		
										115	2001	-DK12	66		<u>.</u>	2001	1316		
OTHER S	OURCE	(5):			MARI	TA	131:	2432	58							2001			

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) 243966-12-9 CAPLUS Accetic acid, [[4,7-dihydro-3-{lH-tetrazol-5-yl}-5H-thieno[2,3-c]pyran-2-yl]amino]oxo-, ethyl ester [90] (CA INDEX NAME)

243968-16-3 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-y]lmethyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

243968-17-4 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[benzoylamino]methyl]-2-[[(1,1-dimethylethoxy)cxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

243968-19-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(benzoyloxy)methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (SCI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243968-22-1 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(1,3-dihydro-1-oxo-2H-isoindol-2-yl)methyl-2-[([1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-,
1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

243968-28-7 CAPLUS 5H-Thiano[2,3-c]pyran-3-carboxylic acid, 5-[(5,6-dichloro-1,3-dihydro-1,3-dioxo-ZH-isoindol-2-yl)methyl]-2-[((1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

243968-33-4 CAPLUS
SH-Thiene(2,3-c)pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-5-[(1,3,4,5,6,7-hexshydro-1,3-dioxo-2H-isoindol-2-yl]methyl]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

243968-35-6 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[[1,1-dimethylethoxy]oxoacetyl]amino]-4,7-dihydro-5-[[[4-methoxyphenyl]sulfonyl]amino]methyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

$$\begin{array}{c|c} H_2N-CH_2 & \begin{array}{c|c} CO_2H & \begin{array}{c} 0 & 0 \\ & \end{array} \\ NH-C-C-OBu-t \end{array}$$

ΙT 243968-53-8

RL: RCT (Reactant); RACT (Reactant or reagent) (reactant; preparation of thieno[2,3-c]pyrans and thieno[2,3-c]pyridines

modulators of protein tyrosine phosphatases (PTPases))
239-68-53-8 CAPLUS
549-61-81 (2,3-c]pyran-3-carboxylic acid, 5-(aminomethyl)-2-[{(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester
(9C1) (CA INDEX NAME)

10

243966-06-5P 243966-19-0P 243966-20-3P 243966-22-5P 243966-30-5P 243966-20-1P 243966-20-1P 243966-33-6P 243966-34-7P 243966-45-7P 243966-45-7P 243966-53-2P 243966-53-2P 243966-53-2P 243966-53-2P 243966-53-2P 243966-53-2P 243966-60-1P 243966-55-7P 243966-65-7P 243966-65-7P 243966-67-1P 243966-73-5P 243966-67-1P 243966-73-5P 243966-93-5P 2

Page 34 SAEED L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243968-42-5 CAPLUS 5H-Thieno(2,3-c)pyran-3-carboxylic acid, 7-[{1,3-dihydro-1,3-dioxo-ZH-iooindol-2-yl)methyl}-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

243968-45-8 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[(acetylamino)methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

243968-48-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-(aminomethyl)-2-[[(1,1-dimethylethoxy) oxacetyl]amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
243967-26-2P 243967-27-3P 243967-28-4P
243967-29-5P 243967-30-8P 243967-31-9P
243967-32-0P 243967-33-1P 243967-31-9P
243967-35-3P 243967-41-1P 243967-48-6P
243967-35-7P 243967-31-1P 243967-85-6P
243967-55-7P 243967-57-9P 23967-58-6P
243967-55-7P 243967-56-4P
243967-65-9P 243967-66-4P
243967-65-9P 243967-65-0P 243967-66-8P
243967-65-9P 243967-55-3P 243967-70-6P
243967-17-7P 243967-71-8P
243967-17-7P 243967-71-8P
243967-17-7P 243967-71-8P
243967-17-7P 243967-71-8P
243967-17-7P
243967-17-7P
243967-17-8P
243967-17-8P
243967-17-8P
243967-17-8P
243967-17-8P
243967-17-8P
243967-18-1P
243967-18-

Na

243966-19-0 CAPLUS 5H-Thieno[2,3-c]thiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-(9C1) (CA INDEX NAME)

243966-20-3 CAPLUS
4H-Thieno[2,3-c][1]benzopyran-1-carboxylic acid, 2[(carboxycarbonyl)amino]-, monosodium salt (9CI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) L4

Na

243966-22-5 CAPLUS Acetic acid, [[4,7-dihydro-3-(lH-tetrazol-5-yl)-5H-thieno[2,3-c]pyran-2-yl]amino]ovo-, disodium salt [9CI) (CA INDEX NAME)

243966-27-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro- (9CI) (NDEX NAME)

243966-28-1 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(benzoylamino)methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

Na

243966-35-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(4-oxo-4H-1-benzopyran-3-yl)carbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

243966-36-1 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dibydro-5-[[(4-oxo-4H-1-benzopyran-2-yl)carbonyl]amino]methyl]- (9CI) (CA INDEX NAME)

243966-37-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[([2E)-3.(3-furanyl)-1-oxo-2-propenyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

RN 243966-38-3 CAPLUS

Page 35

SAEED

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243966-29-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(benzoyloxy)methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-30-5 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1,3-dihydro-1-oxo-2H-isoindol-2-yl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-33-8 CAPLUS 5H-Thieno[2,3-c]thiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)smino]-4,7-dihydro-, 6-oxide (9C1) (CA INDEX NAME)

243966-34-9 CAPLUS 5H-Thiene(2,3-c1hiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-, 6,6-dioxide, monosodium salt (9CI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[([2E)-3-(2-furanyl)-1-oxo-2-propenyl]amino]methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

243966-39-4 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[(2,3-dihydro-3-oxo-lH-inden-1-yl)carbonyl]amino]methyl]-4,7-dihydro-(9Cl) (CA INDEX NAME)

243966-40-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(2,4-doxo-3-thiazolidinyl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-42-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[(3,5-dimethoxybenzoyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) 243966-43-0 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5-{(5,6-dichloro-1,3-dihydro-1,3-dioxo-2H-jeoindol-2-yl)methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

243966-44-1 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(1,3,4,5,6,7-hexabydro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dibydro-(SCI) (CA INDEX NAME)

243966-45-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(1,1-dioxido-3-oxo-1,2-benzisothiazol-2(3H)-yl)methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

243966-46-3 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[([(4-methoxyphenyl)aulfonyl)amino]methyl]- (SCI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

Na

243966-53-2 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[((3-phenoxybenzoyl)amino]methyl]- (9CI) (CA INDEX NAME)

243966-54-3 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[3,5-bis(trifluoromethyl])benzoyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-55-4 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[(cyclohexylcarbonyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-56-5 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[3-(dimethylamino)benzoyl]amino]methyl]-4,7-dihydro- [9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243966-50-9 CAPLUS
5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[(2-methyl-4-oxo-3(4H)-quinazolinyl)methyl]- (9CI) (CA INDEX UNAND)

243966-51-0 CAPLUS SH-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro- (9CI) (INDEX NAME)

243966-52-1 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[(acetylamino)methyl]-2[(carboxycarbonyl)amino]-4,7-dihydro-, monosodium salt (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243966-57-6 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[4(acetylamno)benzoyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro(9CI) (CA INDEX NAME)

243966-58-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[(2-cyclopenten-1-ylacetyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-59-8 CAPLUS

243960-95-6
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7dihydro-5-[[(3-methoxybenzoyl)amino]methyl]- (9CI) (CA INDEX NAME)

243966-60-1 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[4-(dimethylamino)benzoyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243966-61-2 CAPLUS
CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-((carboxycarbonyl)amino]-4,7-dihydro-5-[[(d-phenoxybenzoyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-62-3 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[4(acetyloxy)benzoyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro(SCI) (CA INDEX NAME)

RN 243966-63-4 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[([1-oxo-2-butenyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-64-5 CAPLUS
CN 5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[([1,4-dioxo-4-phenylbutyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 243966-69-0 CAPLUS
CN 5H-Thleno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7dihydro-5-[(lH-indo]-5-ylcarbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-70-3 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[([1-oxo-3-(3-pyridinyl)-2-propenyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-71-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1,4-diox-4-phenyl-2-butenyl)amino]methyl]-4,7-dihydro- (9CI) (CA
INDEX NAME)

RN 243966-72-5 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[(4-(phenylmethoxy)phenoxylacetyl)amino]methyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 243966-65-6 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[(1,5-dioxohexyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243966-66-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7dihydro-5-[[(2-thienylacetyl)amino]methyl]- [9C1) (CA INDEX NAME)

RN 243966-67-8 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(1H-indol-2-ylcarbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-68-9 CAPLUS
CN 5H-ThienO(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[(iH-indol-3-ylcarbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 243966-73-6 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-4,7-dihydro-5-{[[S-(panylmethoxy)-1H-indol-2-yl]carbonyl]amino]methyl]-(9CI) (CA INDEX NAME)

RN 243966-74-7 CAPLUS Sh-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-4,7-dihydro-5-[[[1-oxo-3-(2-thienyl)-2-propenyl]amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-75-8 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-((carboxycarbonyl)amino]-4,7-dihydro-5-[((1-oxo-3-phenylpropyl)amino]methyl]- (9Cl) (CA INDEX NAME)

RN 243966-76-9 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[(2-furanylcarbonyl)amino]methyl]-4,7-dihydro- (9Cl) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243966-77-0 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(2-naphthalenylcarbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-78-1 CAPLUS
CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[(phenoxyacetyl)amino]aethyl]- (9CI) (CA INDEX NAME)

RN 243966-79-2 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(phenylacetyl)amino]methyl]- (SCI) (CA INDEX NAME)

RN 243966-80-5 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[(3,4-dimethoxyphenyl)acetyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) dihydro-5-[[[{5-oxo-2-pyrrolidinyl}carbonyl]amino]methyl]- (9Cl) (CA INDEX NAME)

RN 243966-85-0 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[(3-furanylcarbonyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243966-86-1 CAPLUS
CN 5H-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(2-thienylcarbonyl)amino]methyl]- (SCI) (CA INDEX NAME)

RN 243966-87-2 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[(1,3-dihydro-1,3-dioxo-ZH-isoindol-2-yl)acetyl]amino]methyl}-4,7dihydro- (9CI) (CA INDEX NAME)

RN 243966-89-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(pyrazinylcarbonyl)amino]methyl]- [9C1) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 243966-81-6 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[[(4-sthoxyphenyl)acetyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243966-82-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(1-oxo-3-phenyl-2-propenyl)amino]methyl]- (9CI) (CA INDEX NAME)

$$\text{Ph-CH=CH-C-NH-CH}_2 \xrightarrow{\text{CO}_2H} \text{NH-C-CO}_2H$$

RN 243966-83-8 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)aminoi]-5[[3-(3,5-dimethoxyphenyl)-1-oxo-2-propenyl]amino]methyl]-4,7-dihydro(SCI) (CA INDEX NAME)

RN 243966-84-9 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 243966-90-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[((1-oxido-2-pyridinyl)carbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-92-9 CAPLUS
CN 5H-Thien(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7dihydro-5-[((2-pyridinylcarbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-93-0 CAPLUS
CN 5H-Thien(2,3-c)pyran-3-carboxylic acid, 2-((carboxycarbonyl)amino]-4,7-dihydro-5-[(3-pyridinylcarbonyl)amino]methyl)- (9CI) (CA INDEX NAME)

RN 243966-95-2 CAPLUS
CN 5H-Thleno[2,3-c]pyran-3-carboxylic acid, 5-[[[[3,5-bis(trifluoromethyl)phenyl]acetyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243966-96-3 CAPLUS SH-Thieno[2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[1-cxo-3-(phenylsulfonyl)propyl]amino]methyl]- (9CI) (CA INDEX NAME)

243966-97-4 CAPLUS

243900-97-4 CHUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[3-(3,5-difluorophenyl)-1-oxo-2-propenyl]amino]methyl]-4,7-dihydro- (SCI)
(CA INDEX MAME)

243966-98-5 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[(1,4-dioxo-2-pentenyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-99-6 CAPLUS

24-390-39-0 cross SH-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[3-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-1-oxopropyl]amino]methyl)-4,7-

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) phenylpropyl]amino]methyl]-2-{(carboxycarbonyl)amino]-4,7-dihydro-(CA INDEX NAME)

243967-05-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[2-(acetyloxyl)penzoyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI) (CA INDEX NAME)

243967-07-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[(1,2-dioxo-3-phenylpropyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243967-09-1 CAPLUS 5H-Thieso(2,3-c)pyran-3-carboxylic acid, 5-[[[(benzoylamino)acetyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

243967-11-5 CAPLUS
5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[(1,4-dioxopentyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN dihydro- (9CI) (CA INDEX NAME) (Continued)

243967-00-2 CAPLUS SH-Thieno(2,3-c) pyran-3-carboxylic acid, 2-((carboxycarbonyl) amino)-5-(((1,6-d)coxheptyl) amino)methyl)-4,7-dihydro- (9CI) (CA INDEX NAME)

243967-01-3 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[[4-(dimethylamino)phenyl]acetyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243967-02-4 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[1,3-benzodioxol-5-ylcarbonyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(GCI)(CA INDEX NAME)

243967-03-5 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[2-(acetylamino)-1-oxo-3-

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

$${\sf Me-C-CH_2-CH_2-C-NH-CH_2} \underbrace{ \begin{array}{c} co_2H \\ \\ \\ \\ \end{array}}_{S} {\sf NNH-C-Co_2H}$$

243967-13-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[(acetylamino)acetyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

243967-15-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro5-[[([phenylthio)acetyl]amino]methyl]- (SCI) (CA INDEX NAME)

243967-17-1 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[(phenylmethyl)thio]acetyl]amino]methyl)- (9CI) (CA INDEX NAME)

$$Ph-CH_2-S-CH_2-C-NH-CH_2 \xrightarrow{CO_2H} NH-C-CO_2H$$

243967-18-2 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carrboxycarbonyl)amino]-4,7-dihydro-5-[((lH-indol-3-yloxoacetyl)amino]methyl)- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continue

RN 243967-19-3 CAPLUS
CN SH-Thleno[2,3-c|pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7dihydro-5-[[(3-(1H-indol-3-yl)-1,2-dioxopropyl)amino]methyl)- (9Cl) (CA
INDEX NAME)

RN 243967-20-6 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7dihydro-5-[[(3-(2-nitrophenyl)-1,2-dioxopropyl)amino]methyl]- (9CI) (CA
INDEX NAME)

RN 243967-21-7 CAPLUS
SH-Thteno[2,3-c]pyran-3-carboxylic acid, 5-[[[2-{acetylamino}-1-oxo-3-phenyl-2-propenyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243967-25-1 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[3-{IH-benzimidazol-2-yl})-1-oxopropyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-26-2 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-1-oxobutyl]amino]methyl]-4,7-dihydro-(SCI) (CA INDEX NAME)

RN 243967-27-3 CAPLUS
CN 5H-Thienc[2,3-c]pyran-3-carboxylic acid, 5-[[[2-(acetylamino)-1-oxopropyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-28-4 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-{[[2-(acetylamino)-4-(methylthio)-1-oxobutyl]amino]methyl]-2-{(carboxycarbonyl)amino]-4,7-dihydro-(9C1) (CA INDEX NAME)

RN 243967-29-5 CAPLUS Page 40

SAEED

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243967-22-8 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[{[1-acetyl-2-pyrrolidinyl)carboxyl]amino]methyl]-2-{(carboxycarbonyl)amino]-4,7-dihydro[9C1] (CA INDEX NAME)

RN 243967-23-9 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-3-(1H-imidazol-4-yl)-1-oxopropyl]amino]methyl]-4,7-dihydro-(9Cl) (CA INDEX NAME)

RN 243967-24-0 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5-{[[4-(3,4-dimethoxyphenyl)-1,2-dioxo-3-butenyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[2-(1,3-d)hydro-1,3-dioxo-2H-inoindol-2-yl)-4-methyl-1-oxopentyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-30-8 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[2-(acetylamino)-3-methyl-1-oxobutyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-31-9 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5-[[{2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-1-oxo-3-phenylpropyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-32-0 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[(2,3-dihydro-1H-inden-2-yl)acetyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243967-33-1 CAPLUS
CN 5H-Thleno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5[[(9,10-dihydro-9,10-dioxo-2-anthracenyl)carbonyl]amino]methyl]-4,7dihydro- [9C1) (CA INDEX NAME)

RN 243967-34-2 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7dihydro-5-[[[(1-naphthalenyloxy)acetyl]amino]methyl]- (9CI) (CA INDEX numr)

RN 243967-35-3 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-1-exopropyl]amino]methyl]-4,7-dihydro-(SCI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 243967-54-6 CAPLUS
CN 5H-Thieno[2,3-c]pyran-4-acetic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-[9C1] (CA INDEX NAME)

RN 243967-55-7 CAPLUS
CN Acetic acid, [[4-(carboxymethylene)-4,7-dihydro-5H-thieno[2,3-c]pyran-2yl]amino[oxo- (9CI) (CA INDEX NAME)

RN 243967-57-9 CAPLUS
CN Acetic acid, [[4,7-dihydro-4-(1H-tetrazol-5-ylmethyl)-5H-thieno[2,3-c)pyran-2-yl]amino]oxo- [9CI] (CA INDEX NAME)

RN 243967-58-0 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[2(acetylamino)benzoyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro(SCI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

$$\underset{\text{HO}_2\text{C}-\text{C}-\text{NH}}{\text{NH}-\text{C}-\text{CH}_2-\text{NH}-\text{C}-\text{CH}-\text{NH}} = \underset{\text{C}}{\overset{\text{M}}{\text{e}}} \overset{\text{M}}{\text{e}} \overset{\text{$$

RN 243967-41-1 CAPLUS
CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro- (9C1) (CA INDEX NAME)

RN 243967-48-8 CAPLUS
CN SH-Thieno[2,3-c]thiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-6,6-dioxide (9CI) (CA INDEX NAME)

RN 243967-49-9 CAPLUS
CN 4H-Thieno[2,3-c][1]benzopyran-1-carboxylic acid, 2[(carboxycarbonyl)amino]- (9CI) (CA INDEX NAME)

RN 243967-50-2 CAPLUS
CN Acetic acid, [[4,7-dihydro-3-(1H-tetrazol-5-y1)-5H-thieno[2,3-c]pyran-2-y1]amino]oxo- [951) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243967-59-1 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[(acetylamino)methyl]-2((carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-60-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[5-(aminosulfonyl)-6-chloro1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl]methyl]-2-[(carboxycarbonyl)amino]4,7-dihydro- [9CI] (CA INDEX NAME)

RN 243967-61-5 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(5,7-di)hydro-5,7-dioxo-6H-pyrrolo[3,4-b]pyridin-6-yl)methyl]-4,7-dihydro(9CI) (CA INDEX NAME)

RN 243967-62-6 CAPLUS
SH-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[5,7-dibydro-5,7-dioxo-6H-pyrrolo[3,4-c]pyridin-6-yl]methyl]-4,7-dihydro[9CI] (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN L4 (Continued)

243967-63-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5([5,7-dibydro-5,7-dioxo-6H-pyrrolo[3,4-b]pyrazin-6-yl)methyl]-4,7-dibydro(9C1) (CA INDEX NAME)

243967-64-8 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(1,3-dihydro-5-nitro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-(SCI) (CA INDEX NAME)

243967-65-9 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(3,4-dihydro-1,3-dioxo-2(1H)-i=oquinolinyl)methyl]-4,7-dihydro-(9CI)(CA INDEX NAME)

243967-66-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(4,6-dihydro-4,6-dioxo-5H-thieno[2,3-c]pyrro1-5-yl)methyl]-4,7-dihydro-

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (9CI) (CA INDEX NAME) (Continued)

243967-67-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarboxyl)amino]-5-[(4,6-diox-4H-thieno[3,4-c]pyrrol-5(6H)-yl)acthyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243967-68-2 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(2,6-dihydro-4,6-dioxopyrrolo[3,4-c]pyrazol-5(4H)-yl)methyl]-4,7-dihydro-(9Cl) (CA INDEX NAME)

243967-69-3 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(4,6-dihydro-4,6-dioxo-5H-pyrrolo[3,4-d]thiazol-5-yl)methyl]-4,7-dihydro(9CI) (CA INDEX NAME)

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

243967-70-6 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[2-{acetylamino}-4,6-dihydro-4,6-dioxo-5H-pyrrolo[3,4-d]thiazol-5-yl]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

243967-71-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-((carboxycarbonyl)amino]-5-((1,3-dihydro-5-hydroxy-1,3-dioxo-2H-isoindol-2-yl)methyl)-4,7-dihydro-(9CI) (CA INDEX NAME)

243967-72-8 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(1,3-dihydro-5-methoxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

243967-73-9 CAPLUS 5H-Thieno[2,3-c]pyren-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(1,3-dihydro-4-hydroxy-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-{9CI} (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243967-74-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(1,3-dihydro-4-methoxy-1,3-dioxo-2H-isoindol-2-yl)methyl)-4,7-dihydro-(9CI) (CA INDEX NAME)

243967-75-1 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarboxyl)amino]-5[(1,3-dihydro-4-nitro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro(OCI NOMEX NAME)

243967-76-2 CAPIUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(4-acetyl-2,6-dioxo-1-piperazinyl)methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (SCI) (CA INDEX NAME)

RN 243967-77-3 CAPLUS

Page 42

SAEED

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
CN Sh-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[2,6-dioxo-4-[{trifluoromethyl)sulfonyl}-1-piperazinyl]methyl]-4,7dihydro- [9C1) (CA INDEX NAME)

RN 243967-78-4 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[(4-(methylsulfonyl)-2,6-dioxo-1-piperazinyl)methyl)- (9CI) (CA INDEX NAME)

$$\underset{\mathsf{Me} = \prod\limits_{i=1}^{n} \bigcap\limits_{i=1}^{n} \bigcap\limits_{i=$$

RN 243967-79-5 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[1,3-dihydro-5-[(methylamino)carbonyl]-1,3-dioxo-2H-isoindol-2-yl]methyl]4,7-dihydro- (SCI) (CA INDEX NAME)

RN 243967-80-8 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[5[(ethylamino)carbonyl]-1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl]methyl]-4,7dihydro-(9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243967-81-9 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[1,3-dihydro-1,3-dioxo-5-[(propylamino)carbonyl]-2H-isoindol-2-yl]methyl]4,7-dihydro- (9C1) (CA INDEX NAME)

RN 243967-82-0 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino}-5-{(1,3-dihydro-1-thioxo-2H-isoindo1-2-yl)methyl}-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-84-2 CAPLUS
CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl) amino]-5-[[4-[(dimethylamino) carbonyl]-2,6-dioxo-1-piperazinyl]methyl}-4,7-dihydro-(9CI) (CA INDEX NAME)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243967-85-3 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[4-(methylamino)carbonyl]-2,6-dioxo-1-piperazinyl]methyl]-(9C1) (CA INDEX NAME)

RN 243967-86-4 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(2,6-dioxo-1-piperazinyl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-87-5 CAPLUS CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[{4-{2-amino-2-oxoethyl}-2,6-dioxo-1-piperazinyl]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI)(CA INDEX NAME)

RN 243967-88-6 CAPLUS
CN 1-Piperazineacetic acid, 4-[[3-carboxy-2-([carboxycarbonyl)amino]-4,7-dihydro-5H-thieno[2,3-c]pyran-5-yl]methyl]-3,5-dioxo-(9CI) (CA INDEX NAMS)

L4 ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243967-89-7 CAPLUS

SH-Thleno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(2,3-dihydro-3,5-dioxo-1,4-benzoxazepin-4(5H)-yl)methyl]-4,7-dihydro[9CI] (CA INDEX NAME)

RN 243967-90-0 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[2-(acetylamino)-5,7-dihydro-5,7-dioxo-6H-pyrrolo[3,4-d]pyrimidin-6-yl]methyl]-2[(carboxycarbonyl)amino]-4,7-dihydro-(9CI) (CA INDEX NAME)

RN 243967-91-1 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[4-[[4(acetylamino)phenyl]sulfonyl]-2,6-dioxo-1-piperazinyl]methyl]-2[(carboxycarboxyl)amino]-4,7-dihydro- [9CI] (CA INDEK NAME)

RN 243967-92-2 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[4-[(methoxymethylamino)carbonyl]-2,6-dioxo-1-

ANSWER 11 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN piperazinyl]methyl] - (9CI) (CA INDEX NAME) (Continued)

REFERENCE COUNT:

THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

LA ANSWER 12 OF 12
ACCESSION NUMBER:
1999:595127 CAPLUS
131:228643
ITITLE:
INVENTOR(S):

INVENTOR(S):

INVENTOR(S):

ACCESSION NUMBER:
1399:595127 CAPLUS
131:228643
Preparation of oxalylaminothiophene derivatives as modulators of protein tyrosine phosphatases (PTPsser)
ACCESTANCE ACCES DOCUMENT TYPE: Patent English 6 LANGUAGE: FAMILY ACC. NUM. COUNT: PATENT INFORMATION: \*\*ENT NO.\*\*

\*\*S946237\*\*

\*\*W: AE, AL, AH, AT, AU, AZ, BA, BB, BG, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, DF, KEE, ES, FI, GB, GD, GE, GH, GM, HR, DF, KEE, KG, KF, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MN, MW, MK, NK, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TH, TR, TT, UA, UG, US, UZ, VN, YU, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

\*\*RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, CS, FI, PR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG

\*\*S625329\*\*

\*\*US 2002019412\*\*

Al 19990927\*\*

\*\*D8 6262044\*\*

AU 3997139\*\*

\*\*A1 19990916\*\*

\*\*CA 202244\*\*

A1 19990916\*\*

\*\*CA 202247\*\*

A2 19992030

A3 19990917\*

A3 19990917\*

A4 1999-2036\*\*

A 19990010\*\*

A 19990917\*

A 19990910\*\*

A 20001121\*\*

A 1999-0035\*

A 19990910\*\*

A PATENT NO. DATE KIND DATE APPLICATION NO. JP 2000-535620 NO 2000-4526 US 2001-810266 US 2002-158464 DK 1998-345 DK 1998-343 DK 1998-342 DK 1998-344 DK 1998-347 NO 2000004526 US 6410586 US 2003069267 20001108 20010316 20020528 PRIORITY APPLN. INFO.: 19980312 19980312 19980312 19980312 19980312

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN DK 1998-346
DK 1998-348
DK 1998-479
DK 1998-472
DK 1998-472
DK 1998-473
DK 1998-478
DK 1998-478
DK 1998-478
DK 1998-478
DK 1998-478
DK 1998-476
DK 1998-476
DK 1998-476
DK 1998-480
US 1998-82912P
DK 1998-891159
DK 1998-939
DK 1998-939
DK 1998-1365
DK 1998-1365
DK 1998-1365
DK 1998-1365
DK 1998-1379
US 1998-82312P
US 1998-82312P
US 1998-82312P
US 1998-82312P
US 1998-82314P
US 1998-82314P (Continued)
A 19980312
A 19980403
F 19980403
F 19980403
F 19980403
F 19980404
F 19980715
F 19980715
F 19980424
F 19980424 A3 19990311 W 19990312 A3 20010316 WO 1999-DK126 US 2001-810266

Oxalylaminoheterocycles (e.g., oxalylaminothiophene and oxalylaminothienopyran derivs., etc.) were prepared as inhibitors of Protein Tyrosine Phosphatases (PTPases), such as PTP1B, TC-PTP, CD45, SHP-1, SHP-2, PTPe, PTPE, PTPB, P

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) 57% yield. In an in vitro test against PTPIE expressed in E. coli and purified by known methods, Ki values at various inhibitor concns. were detd. An anal. of selectivity of two PTPase inhibitors against PTPIE, PTP-LAR, PTPe, CD45, and PTPE showed that one compd. of the invention is a non-selective inhibitor, whereas another behaves like a selective inhibitor. 243968-05-09 243968-12-99 243968-16-39 243968-17-49 243968-19-69 243968-22-1P 243968-27-243968-35-69 243968-42-59 243968-45-89 243968-46-1DP, Wang resin-bound

resin-bound RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(intermediate, preparation of oxalylaminothiophene derivs. as modulators

protein tyrosine phosphatases (PTPases))
243968-05-0 CAPIUS
4H-Thieno[2,3-c][1]benzopyran-1-carboxylic acid, 2{{ethoxyoxoacetyl}amino]-, ethyl ester (9CI) (CA INDEX NAME)

243968-12-9 CAPLUS
Acetic acid, [[4,7-dihydro-3-(1H-tetrazol-5-yl)-5H-thieno[2,3-c]pyran-2-yl]amino]oxo-, ethyl ester (9CI) (CA INDEX NAME)

243968-16-3 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[{1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl]methyl]-2-[{(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

Page 44

GΙ

SAEED

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) L4

243968-17-4 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(benzoylamino)methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]mino]-4,7-dihydro-, 1,1-dimethylethyl ester (SCI) (CA INDEX NAME)

243968-19-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(benzoyloxy)methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (SCI) (CA INDEX NAME) RN CN

243968-22-1 CAPLUS
5H-Thieno[2,3-c]pyren-3-carboxylic acid, 5-{(1,3-dihydro-1-oxo-2H-isoindol-2-yl)methyl]-2-{[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-,
1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

243968-28-7 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[(5,6-dichloro-1,3-dihydro-1,3-dico-2H-isoindol-2-yl]methyl]-2-[([1,1-dimethylethoxy]oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243968-45-8 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-((acetylamino)methyl]-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

243968-48-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-(aminomethyl)-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

$$\begin{array}{c|c} \text{H}_2\text{N-CH}_2 & \begin{array}{c|c} \text{CO}_2\text{H} & \begin{array}{c|c} \text{O} & \text{O} \\ \end{array} \\ \text{NH-C-C-OBu-t} \end{array}$$

243966-65-6P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PRBP (Preparation); USES (Uses) (preparation of oxalylaminothiophene derivs. as modulators of protein tyrosine phosphatases (PTPases))
243966-65-6 CAPIUS
SH-Thieno(2,3-c]pyram-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[(1,5-dioxohexyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

243968-33-4 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy) oxoacetyl]amino]-5-[(1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-iosindol-2-yl)methyl]-4,7-dihydro-, 1,1-dimethylethyl ester [9CI] (CA INDEX NAME)

243968-35-6 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[[(1,1-dimethylethoxy) oxoactyl]amino]-4,7-dihydro-5-[[[(4-methoxyphenyl]sulfonyl]amino]methyl]-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

243968-42-5 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 7-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-y]hesthyl)-2-[[(1,1-dimethylethoxy)oxoacetyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester (9CI) (CA INDEX NAME)

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243968-53-8
RL: RCT (Reactant): RACT (Reactant or reagent)
(reactant: preparation of oxalylaminothiophene derivs. as modulators of
protein tyrosine phosphatases (PTFases))
243968-53-8 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-(aminomethyl)-2-[[(1,1-dimethylethxy)oxoactyl]amino]-4,7-dihydro-, 1,1-dimethylethyl ester
(9CI) (CA INDEX NAME) ΙŤ

10
243966-06-5P 243966-19-0P 243966-20-3P 243966-22-5P 243966-27-0P 243966-28-1P 243966-29-2P 243966-33-6P 243966-36-3P 243966-38-3P 24 ΙT

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)
243967-31-9P 243967-32-0P 243967-33-1P
243967-34-2P 243967-35-3P 243967-35-1P
243967-34-2P 243967-35-3P 243967-59-1P
243967-34-2P 243967-35-3P 243967-59-1P
BSU (Biological activity or effector, except adverse), BSU (Biological study, unclassified), SFN (Synthetic preparation), THU (Therapeutic use), BIOL (Biological study), PREP (Preparation), USES (Uses)
(target compd., prepn. of oxalylaminothiophene derivs. as modulators of protein tyrozine phosphatases (PTBases)
243966-06-5 CAPLUS
5H-Thieno(2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-, monosodium salt (9CI) (CA INDEX NAME)

243966-19-0 CAPLUS 5H-Thieno[2,3-c]thiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-20-3 CAPLUS
4H-Thieno[2,3-c][1]benzopyran-1-carboxylic acid, 2[(carboxycarbonyl)amino]-, monosodium salt (9CI) (CA INDEX NAME)

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

$$\begin{array}{c} \\ \text{Ph-C-O-CH}_2 \\ \\ \end{array} \begin{array}{c} \text{CO}_2\text{H} \\ \\ \text{NH-C-CO}_2\text{H} \end{array}$$

243966-30-5 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[(1,3-dihydro-1-oxo-2H-isoindol-2-yl)methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

243966-33-8 CAPLUS 5H-Thieno[2,3-c]thiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-, 6-oxide (9CI) (CA INDEX NAME)

-со2н CO2H

243966-34-9 CAPLUS 5H-Thieno[2,3-c]thiopyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-, 6,6-dioxide, monosodium salt (9CI) (CA INDEX NAME)

243966-35-0 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[(d-oxo-4H-1-benzopyran-3-y1)carbonyl]amino]methyl)- (9CI) (CA INDEX NAME)

Page 46

SAEED

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

243966-22-5 CAPLUS Acetic acid, [[4.7-dihydro-3-(1H-tetrazol-5-yl)-5H-thieno[2,3-c]pyran-2-yl]amino]oxo-, disodium salt (9CI) (CA INDEX NAME)

●2 Na

243966-27-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino)-5-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-28-1 CAPLUS SH-Thieno(2,3-c)pyran-3-carboxylic acid, 5-[(benzoylamino)methyl]-2-[(carboxycarbonyl)mino)-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-29-2 CAPLUS

243900-27-2 CAFLUS
5H-ThienO[2,3-c]pyran-3-carboxylic acid, 5-[(benzoyloxy)methyl]-2[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

243966-36-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-4,7-dihydro-5-[[(4-oxo-4H-1-benzopyran-2-yl)carbonyl]amino]methyl]- (9CI) (CA INDEX NAME)

243966-37-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[([2E)-3(-3-furanyl)-1-oxo-2-propenyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

Double bond geometry as shown.

243966-38-3 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5-[[([2E)-3-(2-furanyl)-1-oxo-2-propenyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-39-4 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[[(2,3-dihydro-3-oxe-1H-inden-1-yl]carbonyl]amino]methyl]-4,7-dihydro-

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) (9CI) (CA INDEX NAME)

RN 243966-40-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(2,4-dioxo-3-thiazolidinyl)methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243966-42-9 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[[(3,5-dimethoxybenzoyl)amino]methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

RN 243966-43-0 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5{(5,6-dichloro-1,3-dibydro-1,3-dioxo-2H-isoindol-2-yl)methyl}-4,7-dibydro{9Cl} (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) dihydro-5-{(2-methyl-4-oxo-3(4H)-quinazolinyl)methyl}- (9CI) (CA INDEX NAME)

RN 243966-51-0 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-7-[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro- [9CI) (CA INDEX NAME)

RN 243966-53-2 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dibydco-5-[[(3-phenoxybenzoyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-54-3 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[3,5-bis(trifluoromethyl)benzoyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243966-44-1 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1,3,4,5,6,7-hexahydro-1,3-dioxo-2H-isoindol-2-yl)methyl]-4,7-dihydro(SCI) (CA INDEX NAME)

RN 243966-45-2 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1,1-dioxido-3-oxo-1,2-benzisothiazol-2(3H)-yl)methyl]-4,7-dihydro- (9CI)
(CA INDEX NAME)

RN 243966-46-3 CAPLUS
CN 5H-Thiene[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dibydro-5-[[[(4-methoxyphenyl)aulfonyl]amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-50-9 CAPLUS
CN 5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-((carboxycarbonyl)amino)-4,7-

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243966-55-4 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5[{(cyclohexylcarbonyl)amino]methyl]-4,7-dlhydro- (9C1) (CA INDEX NAME)

RN 243966-56-5 CAPLUS
CN 5H-Thienc[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-5-[[[3-(dimethylamino)benzoyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243966-57-6 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[4(acetylamino)benzoyl]amino]methyl]-2-((carboxycarbonyl)amino]-4,7-dihydro(SCI) (CA INDEX NAME)

RN 243966-58-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[(2-cyclopenten-1-ylacetyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243966-59-8 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dibydro-5-[[(3-methoxybenzoyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-60-1 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[4-(dimethylamino)benzoyl]amino]nethyl]-4,7-dihydro- [9CI) (CA INDEX NAME)

RN 243966-61-2 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{{carboxycarbonyl}amino}-4,7-dihydro-5-[[(4-phenoxybenzoyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-62-3 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[4[acetyloxy]benzoyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro[9CI] (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243966-68-9 CAPLUS
CM 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[([H-indo]-3-ylcarbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-69-0 CAPLUS
CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7dihydro-5-[[(H-indol-5-ylcarbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-70-3 CAPLUS

SH-Thieno[2,3-c]pyran-3-cerboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[1-oxo-3-(3-pyridinyl)-2-propenyl]amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-71-4 CAPLUS
CN 5H-Thleno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1,4-dioxo-4-phenyl-2-butenyl)amino]methyl]-4,7-dihydro- (9CI) (CA
INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243966-63-4 CAPLUS
CN SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(1-oxo-2-butenyl)amino]methyl]- (SCI) (CA INDEX NAME)

RN 243966-64-5 CAPLUS
SH-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5[(1, 4-dioxo-4-phenylbutyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243966-66-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[((2-thienylacetyl)amino]methyl]- (9Cl) (CA INDEX NAME)

RN 243966-67-8 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[H-indol-2-ylcarbonyl]amino]methyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243966-72-5 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[[4-(phenylmethoxy)phenoxy]acetyl]amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-73-6 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[5-(phenylmethoxy)-1H-indol-2-yl]carbonyl]amino]methyl](9C1 | (CA INDEX NAME)

RN 243966-74-7 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[1-oxo-3-(2-thienyl)-2-propenyl]amino]methyl]- (9CI) (CA INDEX NAME)

RN 243966-75-8 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[((1-oxo-3-phenylpropyl)amino]methyl]- (9CI) (CA INDEX NAME)

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243966-76-9 CAPLUS
5H-Thieno[2,3-c]yran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[(2-furanylcarbonyl)amino]methyl]-4,7-dihydro- [9CI] (CA INDEX NAME)

243966-77-0 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[(Z-naphthalenylcarbonyl)amino]methyl]- (SCI) (CA INDEX NAME)

243966-78-1 CAPLUS SH-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(phenoxyacetyl)amino]methyl]- (SCI) (CA INDEX NAME)

243966-79-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(phenylacetyl)amino]methyl]- (9CI) (CA INDEX NAME)

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (9CI) (CA INDEX NAME)

243966-84-9 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(5-oxo-2-pyrrolidinyl)carbonyl]amino]methyl]- (9CI) (CA INDEX NAME)

243966-85-0 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[(3-furanylcarbonyl)amino]methyl]-4,7-dihydro- [9CI] (CA INDEX NAME)

243966-86-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(2-thienylcarbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

243966-87-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarboxyl)amino}-5-[[[(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)acetyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

243966-80-5 CAPLUS SH-Thieno[2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[13,4-dinsthoxyphenyl)acetyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX

243966-81-6 CAPLUS SH-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[(4-ethoxyphenyl)acetyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-82-7 CAPLUS 5H-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[(1-oxo-3-phenyl-2-propenyl)amino]methyl]- (9CI) (CA INDEX NAME)

243966-83-8 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)aminoi]-5[[{3-{3,5-dimethoxyphenyl}-1-oxo-2-propenyl]amino]methyl]-4,7-dihydro-

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

243966-89-4 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[{(pyrazinylcarbonyl)amino]methyl}- (9CI) (CA INDEX NAME)

243966-90-7 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[(1-oxido-2-pyridinyl)carbonyl]amino]methyl]- (9CI) (CA INDEX NAME)

243966-92-9 CAPLUS
5H-Thieno(2,3-c)pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7dihydro-5-[((2-pyridinylcarbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

243966-93-0 CAPLUS 5M-Thiann[2,3-c|pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[3-pyridinylcarbonyl)amino]methyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

243966-95-2 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[[3,5-bis(trifluoromethyl])phenyl]acetyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-96-3 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-4,7-dihydro-5-{[[1-cxo-3-(phenylsulfonyl)propyl]amino]mathyl]- (9CI) (CA INDEX NAME)

$$\mathsf{Ph} = \mathsf{CH}_2 - \mathsf{CH}_2 - \mathsf{C} - \mathsf{NH} - \mathsf{CH}_2 + \mathsf{CH}_2 + \mathsf{NH} - \mathsf{C} - \mathsf{Co}_2 \mathsf{H}$$

RN CN 243966-97-4 CAPLUS 24396-97-4 CARUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[3-(3,5-difluorophenyl)-1-oxo-2-propenyl)amino]methyl]-4,7-dihydro- (SCI) (CA INDEX NAME)

243966-98-5 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) ylcarbonyl)amino] at nolection (CCI) (CA INDEX NAME)

243967-03-5 CAPLUS 5H-Thieno[2,3-c)pyran-3-carboxylic acid, 5-[[[2-(acetylamino)-1-oxo-3-phenylpropyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI)(CA INDEX NAME)

243967-05-7 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[2(acetyloxy)benzoyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro(9C1) (CA INDEX NAME)

243967-07-9 CAPLUS 5H-Thleno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[(1,2-dioxo-3-phenylpropyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

$$\text{Ph-CH}_2\text{--}\text{C--}\text{NH-CH}_2 \xrightarrow{\text{CO}_2\text{H}} \text{NH-C--}\text{CO}_2\text{H}$$

243967-09-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[(benzoylamino)acetyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) {((1,4-dioxo-2-pentenyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243966-99-6 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[3-(1,3-dihydro-1,3-dioxo-ZH-isoindo]-2-yl)-1-oxopropyl]amino]methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

243967-00-2 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[([1,6-61.0xoheptyl)amino]methyl]-4,7-dihydro- (SCI) (CA INDEX NAME)

243967-01-3 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[[4-(dimethylamino)phenyl]acetyl]amino]methyl]-4,7-dihydro- {9Cl} (CA INDEX NAME)

243967-02-4 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[(1,3-benzodioxol-5-

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

243967-11-5 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[{(1,4-dioxopentyl)amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

$$\text{M}_{\bullet}\text{-C-CH}_2\text{-CH}_2\text{-C-NH-CH}_2 \xrightarrow{\text{CO}_2\text{H}} \text{NH-C-CO}_2\text{H}$$

243967-13-7 CAPLUS SH-Thieno(2)-3-clpyran-3-carboxylic acid, 5-[[[(acetylamino)acetyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

243967-15-9 CAPLUS
5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[(phenylthio)acetyl]amino]methyl]- (9CI) (CA INDEX NAME)

243967-17-1 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[[(phenylmethyl)thio]acetyl]amino]methyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243967-18-2 CAPLUS
CN 5H-Thleno[2,3-c]pyran-3-carboxylic acid, 2-[(carrboxycarbonyl)amino]-4,7dihydro-5-[[(H-indol-3-yloxoacetyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243967-19-3 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-{(carboxycarbonyl)amino]-4,7-dihydro-5-[[[3-(1H-indol-3-yl)-1,2-dioxopropyl)amino]methyl]- (9CI) (CA INDEX NAME)

RN 243967-20-6 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-4,7-dihydro-5-[[[3-(2-nitrophenyl)-1,2-dioxopropyl]amino]methyl]- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 243967-25-1 CAPLUS
CN 5H-Thieno(2,3-c]pyran-3-carboxylic acid, 5-[[[3-(1H-benzimidazol-2-yl)-1-oxopropyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-26-2 CAPLUS

SH-Thieno[2, 3-c] pyran-3-carboxylic acid, 2-[(carboxycarbonyl) amino]-5-[[[2-(1,3-di)xyd-1,3-di)xyd-2+isoindol-2-yl)-1-oxobutyl] amino] methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-27-3 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[2-(acetylamino)-1-oxopropyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- [9CI) (CA INDEX NAME)

RN 243967-28-4 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[2-(acetylamino)-4-(methylthio)-1-oxobutyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued

RN 243967-21-7 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 5-{{[2-{acetylamino}-1-oxo-3-phenyl-2-propenyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9CI) (CA INDEX NAME)

RN 243967-22-8 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-[[[(1-acetyl-2-pyrrolidinyl)carboxyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro-(9C1) (CA INDEX NAME)

RN 243967-23-9 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[2-(1,3-d.hydro-1,3-d.bxo-2H-isoindol-2-yl)-3-(1H-imidazol-4-yl)-1-cxopropyl]amino]methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

RN 243967-24-0 CAPLUS
CN 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[4-(3,4-dimethoxyphenyl)-1,2-dioxo-3-butenyl]amino]methyl]-4,7-dibydro- (9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued)

RN 243967-29-5 CAPLUS
CN 5H-Thieno[2, 3-c]pyran-3-carboxylic acid, 2-((carboxycarbonyl)amino]-5-[[[2-(1,3-dihydro-1,3-dioxo-2H-isoindol-2-yl)-4-methyl-1-oxopentyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

RN 243967-30-8 CAPLUS
SH-Thieno[2,3-c]pyran-3-carboxylic acid, 5-{[[2-{acetylamino}-3-methyl-1-oxobutyl]amino]methyl]-2-[(carboxycarbonyl)amino]-4,7-dihydro- (9CI) (CAINDEK NAME)

RN 243967-31-9 CAPLUS

SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[2-(1,3-dibyto-1,3-dioxo-2H-isoindol-2-yl)-1-oxo-3-phenylpropyl]amino]methyl]-4,7-dibydro-(9Cl) (CA INDEX NAME)

ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN (Continued) 243967-32-0 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[(2,3-dibydro-lH-inden-2-yl)acetyl]amino]methyl)-4,7-dibydro- [9CI) [CA INDEX NAME]

243967-33-1 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[[9,10-dihydro-9,10-dioxo-2-anthracenyl)carbonyl]amino]methyl]-4,7-dihydro- (9CI) (CA INDEX NAME)

243967-34-2 CAPLUS 5H-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl) amino]-4,7-dibydro-5-[{[(1-naphthalenyloxy)acetyl]amino]methyl]- (9CI) (CA INDEX NAME)

243967-35-3 CAPLUS SH-Thieno[2,3-c]pyran-3-carboxylic acid, 2-[(carboxycarbonyl)amino]-5-[[[2-1,3-dthydro-1,3-dioxo-2H-1soindol-2-yl)-1-oxopropyl]amino]methyl]-4,7-dihydro-(9CI) (CA INDEX NAME)

L4 ANSWER 12 OF 12 CAPLUS COPYRIGHT 2005 ACS on STN

2

243967-59-1 CAPLUS 5H-Thieno{2,3-c]pyran-3-carboxylic acid, 7-{(acetylamino)methyl}-2-{(carboxycarbonyl)amino}-4,7-dihydro- (9CI) (CA INDEX NAME)

REFERENCE COUNT:

THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

=> logoff

ALL L# QUERIES AND ANSWER SETS ARE DELETED AT LOGOFF

LOGOFF? (Y)/N/HOLD:y

COST IN U.S. DOLLARS SINCE FILE TOTAL ENTRY SESSION 61.08 222.62 FULL ESTIMATED COST

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS) SINCE FILE TOTAL ENTRY SESSION

CA SUBSCRIBER PRICE -8.76 -8.76

STN INTERNATIONAL LOGOFF AT 00:48:31 ON 19 SEP 2005